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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Story of the Week
Quotes of the Week
The Dismal 'Science' of Economics
Sir George Foerstner
There Are Differences, You See
Add Newspaper Boners
Out of Our Mailbag

Story of the Week

Father of a 10-year-old boy obtained a divorce for good and sufficient reasons. His former wife later remarried.

Thinking about the boy, the father worried that the lad's stepfather might not be treating him well. During their next meeting, the real father interviewed his child about this possibility.

"Yeah, he's OK," the boy assured his dad. "We go out rowing on the lake every day, and he lets me swim back to shore by myself. Yesterday, I swam back from eight miles out."

"Hey, Junior, that's a rough deal!"

"No, it's not too bad," the boy replied. "The really tough part is getting out of the burlap bag."

Quotes of the Week

Most home accidents still occur in the kitchen. But frostbite has now replaced burns from hot pots.—J. C. SALAK.

A few years ago, normalcy meant Model T Fords, dirt roads, iceboxes, earphone radios, and silent movies. Normalcy these days involves knowing where the yellow went, how to get today's big car in yesterday's garage, fighting over which TV program to watch, and having occasional personal talks with the family teenagers so the old folks won't fall too far behind on the facts of life.—*R. & R. Magazine.*

The Dismal 'Science' of Economics

At a recent convention of the National Association of Business Economists, George Cline Smith of the F. W. Dodge Corp., narrated that an anxious male voice sounded over his telephone:

"I've just got a job at the XYZ Corp. Tell me, what is a business economist supposed to do?"

Smith answered: "What your

(Concluded on Page 6, Col. 1)

For First Half

Compressor Shipments Rise 44%

WASHINGTON, D. C.—Manufacturers' shipments of compressor bodies in the first half of 1959 totaled 3,080,560 units, a gain of almost 44% over the shipments for the first six months of 1958, it was reported by the Air-Conditioning & Refrigeration Institute.

Last year's total for the first half year was 2,139,885 units.

The figures are for all compressor bodies shipped by manufacturers, except those used in household refrigerators, and are based on the reports of manufacturers whose output is estimated to be in excess of 90% of total U. S. production of compressor bodies.

June shipments amounted to 497,692 units, compared with 333,642 in June a year ago.

Shipments of bodies designed for use in automotive air conditioning numbered 355,305 units in the first half of 1959, as against 267,234 in the same period last year.

Breakdown of shipments by

(Concluded on Page 4, Col. 5)

So. Calif. Groups Study Bid Depository

LOS ANGELES—Representatives of the Refrigeration & Air Conditioning Contractors Association of Southern California, Inc. will meet with representatives of the Mechanical Contractors Association of Southern California to discuss whether or not a bid registration (bid depository) plan is feasible for those companies in the area working in the field of mechanical contracts.

The Mechanical Contractors Association extended the invitation to the RACCA group to explore the possibilities in bid

(Concluded on Page 4, Col. 5)

Consulting Engineers Move To Prevent Inroads Into Their Field

By Phil B. Redeker

CINCINNATI—Consulting engineers, convinced that they have a useful place in projects that involve mechanical, structural, and civil engineering projects, through an association effort are making a determined bid to cut down on any inroads into their activities by other factors in construction work, or by government policy and decrees.

That was made quite evident in the discussion and deliberations at the fourth semiannual meeting of the Consulting Engineers Council, which is a group formed through accredited representatives of local associations of consulting engineers throughout the U. S., and acting in their interests.

Organized three years ago, the U. S. Consulting Engineers Council is comprised of 27 state or regional associations of consulting engineers. Pennsylvania, Indiana, and Kentucky are the newest members, coming in at the Cincinnati meeting. Represented in the council are more than 1,000 consulting engineering firms.

Those in the group who work in the field of mechanical engineering are the ones who are concerned with air conditioning, and a major concern with them is the amount of engineering done by manufacturers of equipment and by contractors. Most of the attention in this regard seemed to be centered on the activity of manufacturers.

Strong protests have been made to manufacturers of "big" air conditioning systems concerning the activities of their field representatives and "field

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Southwest Show Set for Feb. 1-4

NEW YORK CITY — Plans are well advanced for the 2nd Southwest Heating & Air-Conditioning Exposition to be held in Dallas Feb. 1 to 4, 1960.

The exposition, under the auspices of the American Society of Heating, Refrigerating & Air-Conditioning Engineers, will coincide with the first national semiannual meeting of the society, created by the merger of ASHAE and ASRE.

The show "will be national in scope and industry-wide in coverage, with a stronger representation of refrigerating equipment than at the first Southwest Air Conditioning Exposition at Dallas, in 1950, especially with respect to industrial applications," the exposition management explained.

"Manufacturers of equipment in all categories are indicating a

(Concluded on Back Page, Col. 1)

Westinghouse Moving Heat Pump North

Selective Sales Effort Directed at Cooler Areas

STAUNTON, Va. — Sales of heat pumps by the Westinghouse Electric Corp. are being expanded on a selective program into the northern markets, it has been announced by Raymond K. Serfass, manager of the company's air conditioning division.

Up to now, marketing of Westinghouse heat pumps, Serfass explained, has been concentrated in areas south of the Mason-Dixon line where these units have shown a rapid increase in acceptance.

"Now we are going to extend the sale of these units under a selective program," Serfass continued, "to any areas where electric rates have been established to encourage the use of electric heating.

"In addition, we are continuing our policy of selecting only

(Concluded on Back Page, Col. 2)

Supreme Court To Review Room Unit Tax Case Decision

WASHINGTON, D. C. — The U. S. Supreme Court has agreed to review a decision by the Seventh U. S. Court of Appeals that determining the taxability of room air conditioners by horsepower rating was impractical and uncertain.

Reversal of the lower court ruling was asked by Cory Corp. The case involves taxes against Mitchell Mfg. Co., a former subsidiary.

In 1941, Congress imposed a 10% Federal manufacturers' excise tax on self-contained air conditioning units of a household type. In 1948, the Internal Revenue Service (IRS) ruled that only units of less than 1-hp. rating were taxable.

(Under a new Treasury Dept. regulation effective Dec. 1, the horsepower rule has been discarded and the tax broadened to cover all room air conditioners.)

The Court of Appeals ruled that the tax should apply to units "made to meet the needs of a household."

In its appeal to the Supreme Court, Cory charged that the decision "retroactively substituted a vague and subjective standard which is causing widespread confusion" for the horsepower test which had been administered by the IRS for 10 years without "confusion and controversy."

3 Firms Report Sales Rises for Year

Fedders Profit Up 37% On 2.8% Sales Rise

NEW YORK CITY—Salvatore Giordano, president of Fedders Corp., reported to stockholders that in the fiscal year ended Aug. 31, the company's sales were up 2.8% over the previous year while net profits rose 37.3%.

Net sales increased to $55,500,644 from $53,977,921 last year. Net earnings rose to $3,021,453, or $1.61 a share, from the prior year's $2,200,209,

(Concluded on Back Page, Col. 1)

Ranco Net Income Up 62% With Sales Gain of 22%

COLUMBUS, Ohio — Ranco, Inc. consolidated sales and earnings before taxes for the fiscal year ended Sept. 30, 1959, were the highest in the company's history, according to E. C. Raney, chairman of the board, and A. M. Hoover, president.

Sales were 22% above those of a year earlier. Net income, after taxes, increased 62% over the 1958 fiscal year.

Results of operations as pre-

(Concluded on Page 4, Col. 4)

Lennox Reports Heating Up 41%, Cooling 58%

MARSHALLTOWN, Iowa — Increases of 41% and 58% in sales of heating and cooling units, respectively, have been scored during 1959 over last year by Lennox Industries, Inc., manufacturer of central residential forced air heating and cooling equipment, it was announced by John W. Norris, president.

Norris, however, was cautious in predictions for next year,

(Concluded on Back Page, Col. 1)

Mueller Climatrol Promotes Beck, Winter In Sales

MILWAUKEE — Richard B. Schmidt, general sales manager of Mueller Climatrol, has announced the promotions of Jack H. Beck from assistant sales manager to manager of distributor sales and Leo M. Winter from assistant sales manager to manager of dealer sales.

J. H. Beck

L. M. Winter

Beck will be responsible for all distributor sales through regional sales managers, operating from the Milwaukee plant. Winter will head a force of district sales representatives residing in all parts of the nation.

It was also announced that Reginald C. Drew, Melvin V. James, and W. A. McLemore have been promoted to the new positions of regional managers —distributor sales. All will operate from the firm's Milwaukee Office.

The distributor and dealer sales force will serve Mueller Climatrol customers in a consulting capacity on management techniques, financing, personnel procurement, marketing, and related functions, it was pointed out.

"This new step forward will provide for closer relationships between the factory and our customers in all parts of the nation," said Schmidt in announcing the changes.

Conditioner Cleaner Clips Customers; Cops Crack Case

MEMPHIS—A Shelby County grand jury recently indicted a 32-year-old man for fraudulent breach of trust and larceny after police said they believed he sold the same air conditioner to 17 persons.

Lt. J. A. Stoots said the man started business with 14 air conditioners stolen from a Mississippi motel. He made a deal to clean the units but never returned them, according to Stoots.

The officer said the man would sell a $300 air conditioner for $40, fixing it so it would break down in a few days. When it stopped operating, the man would take it back, ostensibly for repairs, and then sell it to somebody else, Stoots explained.

George Boeddener Named Executive V.P. Of National Humidification Association

CLEVELAND—George Boeddener, who recently retired as managing director of the National Warm Air Heating & Air Conditioning Association, has been appointed executive vice president of the National Humidification Association (formerly The Humidifier Association).

G. Boeddener

The appointment becomes effective Jan. 1, 1960.

In addition to changing the name of the association, members have voted to incorporate the organization as a non-profit group.

In the announcement, it is predicted that "humidification will, in the coming years, reach a new horizon of acceptance in the millions of dwelling units which are not now humidified. Also, commercial and industrial application of humidification is almost without limitation.

"Improvements in the mechanical devices for humidification for manual control and/or automatic control through use of a humidistat points the way to broad consumer acceptance.

"Prognostications are that industry sales, which currently are about 500,000 humidifiers per year, will within the next four or five years reach 1,000,000 units."

Some of Boeddener's objectives for the National Humidification Association:

"1. Stimulate municipal legislation to improve indoor comfort conditions through the requirement of humidification.

"2. Obtain cooperation of all national, state, and local associations, gas utilities, oil industry, and electric utilities in promoting the benefits of humidification in their promotional, publicity, and advertising programs.

"3. Obtain cooperation of all manufacturers, wholesalers, distributors, dealers, and contractors in promoting the health and comfort benefits of humidification in letterheads, catalogs, advertising, and publicity releases."

Strong promotion of the health and comfort benefits of humidification will also open the door to central heating and cooling modernization in old homes and improved heating and cooling systems in new homes, it was stated.

At the association's recent meeting in Detroit, the following officers were elected for the coming year:

President — Joseph Perlman, Auto-Flo Corp.; vice president—James Madden, Maid - O - Mist Corp.; secretary—Morris Margolis; treasurer—Jack Green, Viking Air Products.

The membership elected the following members to the board of trustees: Robert Redner, General Filters, Inc.; Perlman; Kent Fournier, Skuttle Mfg. Co.; Madden; and Green.

Coleman Sales Up 22%; Firm Votes Dividends

WICHITA, Kan.—Directors of Coleman Co., Inc., have declared the regular third-quarter dividend of 15 cents a share on the 599,925 shares of common stock outstanding, payable Dec. 10 to stock of record Nov. 27.

A preferred stock dividend of 53⅛ cents will be paid Dec. 12 to stock of record Nov. 27.

Sales in the nine months ended Sept. 30 were $33,975,953, an increase of 22% over sales of $27,858,818 in the same period of 1958. Net income was $1,221,515 compared with $448,424 in the first nine months last year.

Fourth - quarter operations will be affected adversely by the prolonged steel strike, Sheldon Coleman, president, said.

KRAMER Presents a New Evaporator Principle

B-R unit combines all the advantages of the gravity coil with the advantages of the fan type unit. The result of years of research and development, it is the evaporator that answers the problem when the installation requires that "extra" in performance.

LOW AIR VELOCITY: Discharge velocities are no higher than a gravity coil—there are no air blasts. Ideal for installations where people must work in a refrigerated room.

NO DEAD AIR SPOTS: By distributing the B-R units over the ceiling area, even temperature and humidity conditions can be maintained throughout the area.

SPACE SAVER: Fits between the rails without hindering the movement of the stored product; it takes no usable space.

IDEAL FOR THE MEAT INDUSTRY: The B-R unit has proven very successful in the refrigeration of fresh meat. Shrinkage is cut to an absolute minimum, slime and mold are controlled, and the bloom and flavor is maintained. Ideal for carcass chilling, meat cutting rooms, meat storage rooms, aging rooms, smoked meat storage as well as pork, bacon and sausage rooms, etc.

MANY APPLICATIONS: Can be furnished with a hot gas heated pan for temperatures below 30°. Available as an "F" or "L" THERMOBANK system with or without the compressor for temperatures of 32° or lower. The B-R designs include units for Refrigerant 12, Refrigerant 22 and ammonia.

Write for Bulletin R-452

KRAMER TRENTON CO. • Trenton 5, N.J.

Construction Industry Groups Support Standard Retained Percentage Practices

WASHINGTON, D. C.—Need for a greater degree of standardization in retained percentage practices was discussed recently when representatives of many segments of the construction industry met here with officers and directors of the American Institute of Architects.

Present were 47 officials from 19 trade associations and groups within the construction industry, including the Air-Conditioning & Refrigeration Institute, the Mechanical Contractors Association of America, National Association of Plumbing Contractors, and Refrigeration & Air Conditioning Contractors Association.

The group, according to a report by the NAPC, supported a joint statement of principles, formulated by the Committee on Improved Construction Practices of the National Association of Credit Men. In brief, these principles are:

"Each endorsing organization would encourage among their respective memberships an extension to private works, wherever possible, such retained percentage procedures as now prevail on Federal public works.

"Such retained percentage would be at the rate of 10% until 50% of the job is completed, after which there shall be no additional retainage, provided that the work has proceeded to the satisfaction of the architect and/or owner."

One of the representatives at the meeting, Roy T. Gustafson, former NAPC director, said he had spent considerable time investigating this problem. He cited the success of the formulation of a broad representative group of construction industry organizations in Minnesota that has reached an agreement limiting the percentages retained and the time of retention.

The state level meeting which produced the agreement, he said, brought together state representatives of the Associated General Contractors, the American Institute of Architects, and the Construction Specifications Institute, as well as consulting engineers and plumbing, heating, air conditioning, electrical, and roofing contractors.

Gustafson pointed out that the meetings are covering many subjects, including insurance, retainers, substantial completion, temporary heat, and soil investigation, but the percentage retainage agreement is the outstanding result to date.

He has no doubt, Gustafson said, that what has been done in Minnesota could be applied nationally. He indicated there was a great need for the AIA to establish national policy relative to retained percentages.

Other spokesmen emphasized the large amounts held out of working capital in the form of retainages, "aggregating in excess of $5 billion for the entire country."

It was stressed, the NAPC reported, that the intent of the various groups in bringing this to the AIA's attention "was not to hamper the operation of the individual architect, but to allow a release of the working capital now tied up in excessive retainages, which in some cases amounts to as much as 15 to 20%.

John Noble Richards, AIA president, explained that generally the AIA is not in favor of general rulings and this policy also applies to retained percentages. He also indicated that thinking should be in terms of the AIA member's client, the owner of the structure.

Philip Will, Jr., first vice president of the AIA, said that the AIA suffers from retained percentages, too—that they are a nuisance. He wondered, however, what would happen if the AIA should try to change the situation; how could the AIA members get performance, and what would be the alternative to retained percentages?

AIA Director U. Floyd Rible listed some of the problems in the retained percentage field as sizes of jobs to be qualified, quality of contractors, promptness of payments, study in the area of bonded or unbonded jobs, etc.

Both G. Allen Briggs, NAPC second vice president, and Gustafson said they were not opposed to having contractors bonded. Gustafson cited his experience in Minnesota to indicate the problems outlined by Rible are not insoluble.

AIA Director Harold T. Spitznagel cited the South Dakota law that requires a 12% retained percentage.

Alonzo J. Harriman, another AIA director, said he thought it was necessary to have present retained percentages because the "problem children" of the industry—the irresponsible contractors. However, he said he believed that the industry should get this matter cleared up and should have a united front in trying to solve the problem.

Many of those present indicated they were in accord with reasonable retained percentages, but not excessive ones.

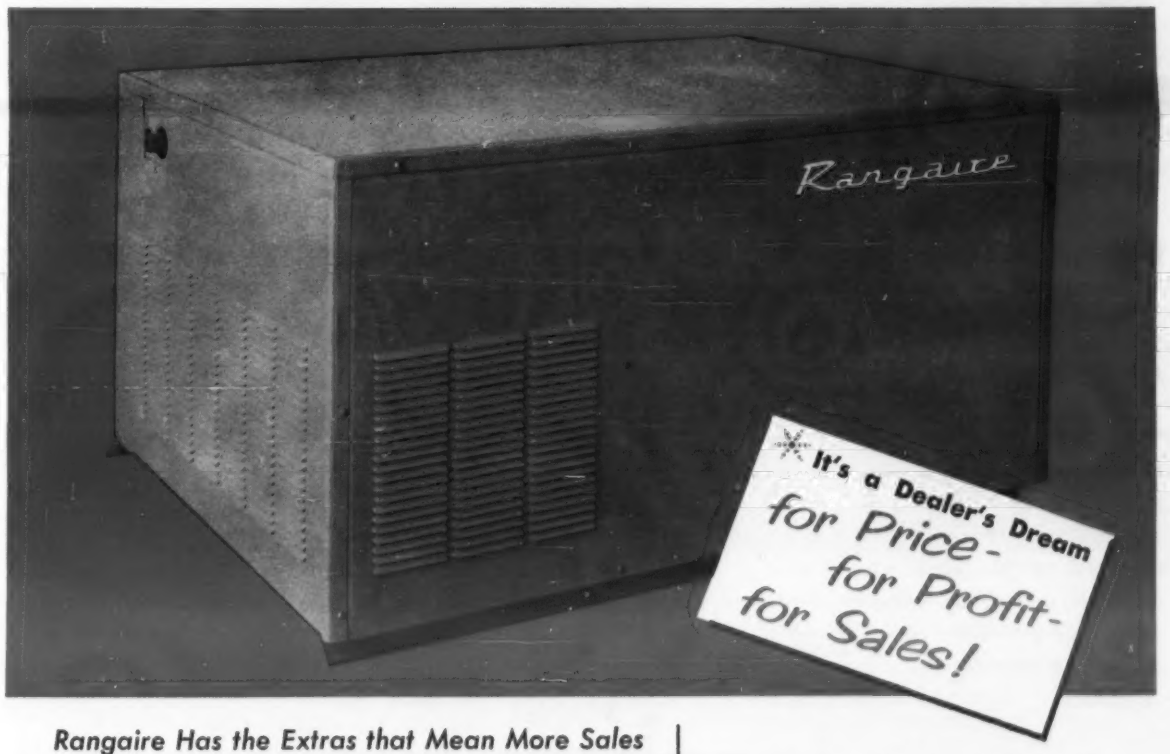
At the conclusion of the meeting, the group voted unanimously that the joint statement of principles on retained percentages be presented to the AIA board of directors' meeting in Portland, Ore. Nov. 9-13, for its consideration.

DOES YOUR APPLIANCE CARRY THIS SEAL of QUALITY?

The motor used in this equipment is protected against overloads, low voltage, over-voltage with a Mighty Mite Thermal Protector

MECHANICAL INDUSTRIES PRODUCTION CO.
223 Ash Street • Akron, Ohio

Where Competition's Hot...
Cool 'em with
Rangaire



Rangaire Has the Extras that Mean More Sales

Imagine! air conditioning that costs less to install, less to operate (up to 30 per cent less) than competitive brands. It's a dealer's dream come true. And on top of that, Rangaire has lots more sales-paced extras to cool the hottest competition. Just look at them!

A Complete Line Of Units To Fit Every Need
A Price To Fit Every Budget
Easy Installation — Completely Packaged
Color Harmonized — Cabinet Blends Into Surroundings
All Components, Extra Large Capacity
Proved In Nation's Heat Belt
Extra Long Life
Factory Guaranteed

A Rangaire dealer-franchise makes good sense because Rangaire dealers have what it takes for sales.

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Please send complete information on Rangaire franchise.

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ADDRESS_____
CITY_____ ZONE___ STATE_____

Mobile Home Mfr. Files $25,000 Suit Against Gas Heater Firm

ELKHART, Ind. — Layton Homes of Elkhart, a mobile home manufacturer, has filed a $25,000 suit in Superior Court against Thurm Engineering Corp. here in connection with bottled gas heaters blamed for a number of deaths.

Layton Homes said it bought 321 Thurm heaters between March and September and installed them in travel trailers sold throughout the country.

According to the suit, the company had to notify all purchasers of trailers equipped with the heater, and had to replace or modify the heater as instructed by Thurm Engineering. This, the suit claimed, caused a loss of time, money, and reputation.

A spokesman for Thurm said the heater, which has allegedly caused carbon monoxide poisoning, is only one of several models manufactured by the company.

Thurm Tells How To Correct Defect

DETROIT—Defective bottled gas space heaters in trailers have been blamed for the recent deaths by asphyxiation of several persons in Michigan and New York.

The heaters were allegedly defective models produced by Thurm Engineering Corp. of Elkhart, Ind.

The company asserted that in October it had made urgent efforts to warn dealers, distributors, and owners that the heaters were defective. Alvin S. Seifert, Thurm Engineering president, was quoted as saying that many heaters made by his firm had been recalled for modification.

Simply moving the firebox up a fraction of an inch will correct the defect, according to a Thurm spokesman, and produce complete combustion.

In the wake of the deaths, however, Michigan reportedly has banned the sale and use of the defective heaters.

Thatcher Elects Tuttle

GARWOOD, N. J. — Election of Edward B. Tuttle to director and vice president of manufacturing at Thatcher Furnace Co. was announced recently.

Tuttle formerly served as production superintendent at the firm's plant here.

Ranco Sales--

(Concluded from Page 1, Col. 3)

sented include those of The Wilcolator Co., acquired in March, 1959, for a full year. However, without Wilcolator, now a wholly owned subsidiary, Ranco's volume and profits would have been materially above those for fiscal 1958, it was noted.

The new high in sales reflected gains in both domestic and international business, the announcement said.

Financial data for fiscal 1959 and prior years are after consolidation of Wilcolator with Ranco and its wholly owned subsidiaries, and per share figures are after allowance for what would have been the dividend requirements of the Series A preferred shares which were actually issued on March 16, 1959, it was pointed out.

Consolidated net sales for the fiscal year ended Sept. 30 amounted to $38,134,925, as compared with $31,167,156 a year earlier.

Consolidated net income totaled $3,222,002, equivalent to $2.93 per share on the 1,073,459 average common shares outstanding during the year after provision for preferred dividends. For the 1958 fiscal year, net earnings were $1,986,623, or $1.79 per share, calculated on the same basis.

Bid Depository--

(Concluded from Page 1, Col. 2)

registration procedure. Plans of this nature have been operating in the Bay Area and in some other areas in California.

Representing RACCA in the meeting will be Bert Stern, Air Conditioning Co.; Frank Park, Western Air & Refrigeration; Don Beck, Kilpatrick and Co.; and C. P. Strickland, York Corp. The MCA representatives will be Joe Herman, J. Herman Co.; William Deel, Murray Co.; and Henry Ulovec, Mehring and Hanson.

Compressor Sales--

(Concluded from Page 1, Col. 2)

size categories, with the names of reporting companies, follows:

MANUFACTURERS' SHIPMENTS OF COMPRESSOR BODIES PRODUCED BY REPORTING COMPANIES
(Except for household refrigerators)

*Horsepower	Shipments June, 1959	Including Jan.–June, 1959	Exports Jan.–June, 1958
⅛ & under	56,824	369,598	587,094
⅙			
¼	124,057	790,145	
⅓	32,106	160,511	105,759
½	16,648	80,841	128,551
¾	10,152	52,203	40,083
1	81,007	661,747	494,099
1½	23,343	173,421	173,969
2	40,513	242,966	202,174
3	16,017	86,290	65,263
4 & 5	12,537	†63,557	40,682
7½	5,069	24,575	19,952
10	1,561	8,335	5,863
15	672	3,728	2,636
20	219	1,011	982
25	237	1,277	996
30	195	1,012	859
40	222	1,085	997
50	158	763	686
60	87	547	510
75	88	399	369
100 & over	57	278	229
Total	**421,769**	**†2,724,289**	**1,871,753**
For auto a-c— Total	75,766	355,305	267,234
For ammonia— Total	157	966	898
Grand Total	**497,692**	**†3,080,560**	**2,139,885**

*For all refrigerants **except** ammonia (excluding units for automotive air conditioning).

†Includes revised data reported to ARI.

Reporting companies: Airtemp Div.; Bendix-Westinghouse; Brunner Div.; Carrier Corp.; Copeland Refrigeration; Curtis Mfg. Co.; Frick Co.; ‡Frigidaire Div.; §General Electric Co.; Kelvinator Div.; Lehigh, Inc.; Tecumseh Products Co.; Trane Co.; Vilter Mfg. Co.; Westinghouse Electric Corp.; Worthington Corp.; York Div.

‡Report includes units for automotive air conditioning only.

§Report includes units for unitary air conditioning only.

This summary includes all compressor bodies shipped by the reporting companies **regardless** of whether they were shipped separately or incorporated into a condensing unit or unitary end-use product (such as a room air conditioner, display case, freezer, or commercial refrigerator). Shipments for export are included. Shipments for household refrigerators are **not** included.

In order to avoid duplication of reporting, shipment figures were requested only from companies that assembled the machined compressor casting with the components necessary to make a complete compressor or motor-compressor assembly.

THE WINNERS!

OF THE
MUELLER BRASS CO.
Master-Line
TOURNAMENT AT THE
11TH A.R.I. ALL-INDUSTRY
SHOW

First prize winner, George P. Patrick, left, is shown here accepting congratulations from F. F. House, Mueller Brass Co. Philadelphia sales representative, who made the presentation of the complete set of golf equipment.

The 11th Exposition of the Air Conditioning and Refrigeration Industry is now history and the golf balls have stopped rolling at Booth 406. Thousands of visitors at the show played a round of golf in the Mueller Brass Co. Masterline tournament. Those of you who attended know how busy the "course" was from opening 'till closing. Our thanks to all who entered the Masterline tournament, and our congratulations to the winners in the final drawings:

1st PRIZE WINNER
George P. Patrick
American Stores Co.
Mechanical Engineer
2207 Mary Lane, Broomall, Pa.
Complete set of golf equipment including Power-Bilt Woods and Irons, Bag, Boy cart and bag.

2nd PRIZE WINNER
Grant W. Thomson
Expert Refrigeration Co.—Owner
2549 Seneca Ave.
Niagara Falls, N. Y.
Complete set of Power-Bilt Irons

3rd PRIZE WINNER
Harry Smith
Salesman
Smith's Refrigeration
990 N. Meridian St.
Youngstown, Ohio
Complete set of Power-Bilt Woods

Overall view of Booth 406 at the exposition hall in Atlantic City where the Mueller Brass Co. Masterline Tournament was played.

MUELLER BRASS CO. PORT HURON 13, MICHIGAN

R. W. Sloane

R. E. Law

Controls of America Announces 3 Shifts

MILWAUKEE — Three key personnel changes affecting the handling of sales and engineering in the Heating and Air Conditioning Controls Div. of Controls Co. of America, have been made to further improve customer service, it was announced.

H. B. Wilgus

R. W. Sloane, formerly product manager-oil heating products, has been promoted to director of engineering-heating and air conditioning controls.

Replacing Sloane as product manager-oil heating products is R. E. Law, who has been application engineer-oil heating products, Heating and Air Conditioning Div.

Harvey B. Wilgus has been transferred to the division as assistant director of sales. He had been general sales manager of the company's Automotive and Appliance Controls Div.

5-Day Course Set for Raleigh Jan. 11-15

RALEIGH, N. C.—A five-day short course in refrigeration will be held here Jan. 11 through 15 under the joint sponsorship of the North Carolina State Board of Refrigeration Examiners and chapters of the Refrigeration Service Engineers Society, announces James A. Dean, executive secretary of the board.

Designed to offer contractors, servicemen, and technicians a review of fundamentals of theory and application practices, the course will be conducted by the Mechanical Engineering Dept., North Carolina State college.

OHI Examinations Held in Florida, Connecticut

NEW YORK CITY—Examinations to certify oil heat servicemen under standards set by the Distribution Div. of the Oil Heat Institute of America were held during November in Florida and Connecticut.

The examination there were held under the local sponsorship of the Better Home Heat Council of Florida and the Oil Heat Institute of New England.

DuPont Names Wright

WILMINGTON, Del.—Robert Wright, Jr., has been named sales supervisor of the Chicago district office of du Pont's "Freon" Products Div.

He was a technical sales representative of the division in Chicago for the last year, and for the year before that in St. Louis.

Certified Refrigeration & Air Conditioning Foundation Formulated In New Jersey

EAST ORANGE, N. J.—The newly-formed Certified Refrigeration & Air Conditioning Foundation operating under the Joint Industry Trust Fund of the Air Conditioning and Refrigeration Program for New Jersey was announced recently along with notices of the 12th annual dinner dance to be held in Newark, N. J. on Jan. 30, 1960, for RACCA members and their guests.

The foundation, it was explained, "operates under the joint Journeymen & Apprentice Training Committee, composed of labor and those New Jersey employers who meet the highest standards of reliability and service performance which will benefit the industry and its customers. Individual contractors compete freely for business under their own service and maintenance plans."

The service to foundation members will be in charge of Paul B. Hughes, executive manager of the state program, of the J.I.T.F.-N. J. and J. Lloyd Handy, executive secretary of RACCA-N. J., recently appointed by Saul Marder, RACCA of N. J. president.

Handy, with years of sales promotion, advertising, and publicity background in refrigeration and air conditioning work, will open RACCA-N. J. new office at 37-39 Maple St., Summit, N. J. about Dec. 1. A concentrated advertising and publicity program is now under way and is "enthusiastically endorsed by both RACCA-N. J. and the United Association trustees," it was reported.

"Twenty-four young apprentices," the report continued, "have been indentured and in training for the past two years in the foundation's own class sponsored and paid for by foundation members.

"Special sessions are held periodically for the upgrading and certification of older journeymen in the industry. A complete, well-equipped school is maintained for this purpose, cost of which is borne by the foundation.

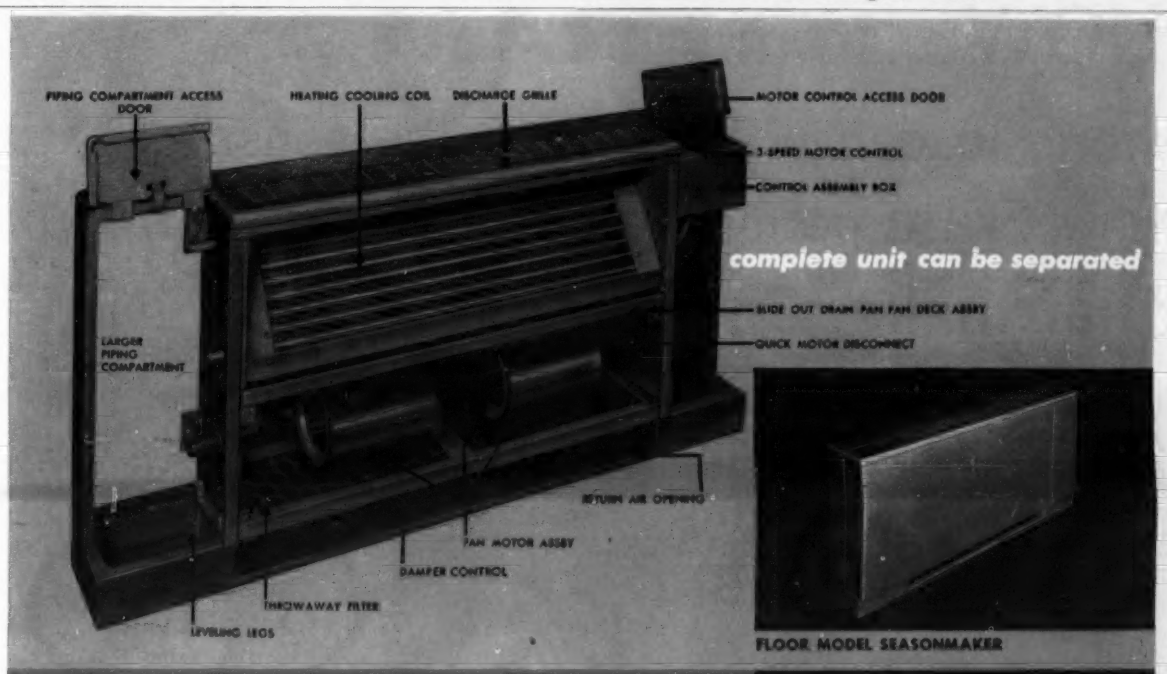
"The training program is sanctioned by and certified with the State Dept. of Education and the Apprentice Bureau of the U. S. Dept. of Labor and follows the recently outlined recommended instruction methods of the National Joint Pipefitters Apprentice Committee, plus the special related instruction material of the Refrigeration Div., United Association.

"The close harmony of each of the present members with the foundation has alleviated much of the manning problems formerly encountered in the outside areas. The foundation has an office at 90-100 Knickerbocker Rd., Closter, N. J., where special representatives can be contacted."

Leigh Names Coxe

ASHEVILLE, N. C. — Frank Coxe has been named vice president for industrial relations of Leigh Industries, Inc.

This firm is erecting a new plant in the Fairview section just south of Asheville for the manufacture of grilles, registers, and other light metal items for the heating, air conditioning, and building industries. The plant expects to begin operations in February or March of 1960.



So Versatile, So Dependable ...and So Easy to Work With

McQuay thin-line design SEASONMAKER

McQuay thin-line design individual room Seasonmakers are popular, not only because of their convenient size, their high efficiency and their inherent quality, but because they are so extremely versatile and dependable. Every part is easily and quickly accessible. They are easy to install and easy to work with. For example, filters are easily changeable; the slide-out fan deck is quickly removable; the hand of coil is easily reversible in the field.

All McQuay Seasonmakers utilize central station heating and cooling and are available with capacities of 220, 330, 440, 520 and 640 cfm. They furnish individual room comfort at any desired temperature level—heated, filtered air in winter and cooled, dehumidified and filtered air in summer. Seasonmakers are ideal for multi-room buildings such as hotels, apartments, motels, schools, hospitals, offices and residences.

If you haven't already done so, investigate McQuay individual room Seasonmakers. For complete information call the McQuay representative in or near your city, or write McQuay, Inc., 1607 Broadway St. N. E., Minneapolis 13, Minnesota.

ONLY 8 1/2" THIN
25 INCHES HIGH

4 Models In 5 Sizes

McQuay INC.
AIR CONDITIONING • HEATING • REFRIGERATION

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

boss wants you to do."

"That's just it," the voice shuddered. "He doesn't have the faintest idea of what an economist does."

"Well, why did he hire you?"

"He learned that our biggest and most successful competitor has an economist."

Cline further observed that the economist in most businesses is held either in contempt or admiration.

Some businessmen look upon him as an impractical theorist. Others consider him to be a high priest of the unknowable, a man of inexhaustible wisdom.

It was generally agreed that most economists are overgobble-degooked. They don't communicate because they hide behind an unintelligible vocabulary.

They should remove the mystique from their subject so that people can understand them.

Amen!

Sir George Foerstner

Before a hushed audience of 2,000, Amana's executive vice president, George Foerstner, recently was invested as a Knight in West Germany's exclusive Order of Merit.

Baron Friedrich von Lupen, who decorated George, declared that the honor was bestowed for his labors in promoting refrigeration development in West Germany.

Knight Foerstner is one of five distinguished Americans who have been kudoed thusly.

There Are Differences, You See

Shipwrecked on a desert island are two men and a woman. Here's how they'd act if they were:

Spanish: One man would kill the other.

Italian: The woman would kill one man.

German: They'd all work together and have no fun at all.

Russian: The men would organize a five-year plan, while the woman worked.

English: Nobody would speak, because they hadn't been properly introduced.

American: The men would talk business while the woman searched for a mirror.

French: This is a problem?

Add Newspaper Boners

Laughton's Bottom Is Tops at Avon.—*Dallas Times Herald.*

Death of Newlyweds Orphans 8 Children. — *Norfolk Ledger-Dispatch.*

Bad Concerts Open Sunday In City Park. — *Ogden Standard Examiner.*

Liberace Presses His Suit In British Court.—*Clarksburg* (W. Va.) *Exponent.*

Six ORT Presidents to Take Gravel.—*Miami Herald.*

Out of Our Mailbag

Mississippi Power & Light Co.
Jackson, Miss.

Editor:

"Inside Dope" might like to hear about the Scotch fisherman who married the gal because she had worms.

I always enjoy your paper and its "Dope."

AL HARDIN

Air-Conditioning & Refrigeration Institute
Washington, D. C.

Editor:

For those secretaries who are tired of typing with their left hands, may *I* suggest the following phrases:

Jolly Monk & Nun join holily in hymn

I'll jump on my pony & limply ply on

My plump pupil in mink (If pupil is not rich—try poplin)

In my pink kimono I loll on hill

Non-union opinion on monopoly.

Admittedly, *only* one of these phrases could possibly *be* used *in a* business letter and *I* am possibly sneaking *a* little by using the *&* symbol.

In the right-versus-left hand *opinion poll, I* believe that it should *be* taken into consideration that all punctuation is done with the right hand, also the most commonly-used symbols. (Unless doing statistics or accounting.)

The IBM electrics *in* this office give responsibility for the carriage return and back space to the right hand. The left hand manipulates the tabular key and margin release.

If nothing else, this discussion has brought out that secretaries read the NEWS and especially "Inside Dope".

VIRGINIA C. WELLS

City of Highland Park, Michigan

Editor:

I read and enjoy your items in "Inside Dope," but I am afraid I will have to disagree with Saundra Lang on her list of words typed exclusively with the left hand.

I have yet to find a typewriter with the *l* or the *n* easily accessible to the left hand.

Affable, cabled, reversal, veneer and revealed all require the help of the right hand. Am I right?

EUGENIE JACKMAN,
Refrigeration Inspection Dept.

Refrigeration Economics Co.
Canton, Ohio

Editor:

Have noted with interest your Inside Dope item, "Attention, Secretaries!" and responses from your readers.

One of your letter-writers states: "Maybe one of the typewriter companies will come up with a more evenly balanced keyboard layout if we secretaries start complaining about left-hand-itis."

To put this lady at ease I wish to advise that the world's largest employer of secretaries, the U.S. Government, thought of this idea a long time ago and had a number of special typewriters built.

It was expected that the average speed of the typist would be somewhat increased. However, after evaluation, it was found that there was an increase in output in only some instances.

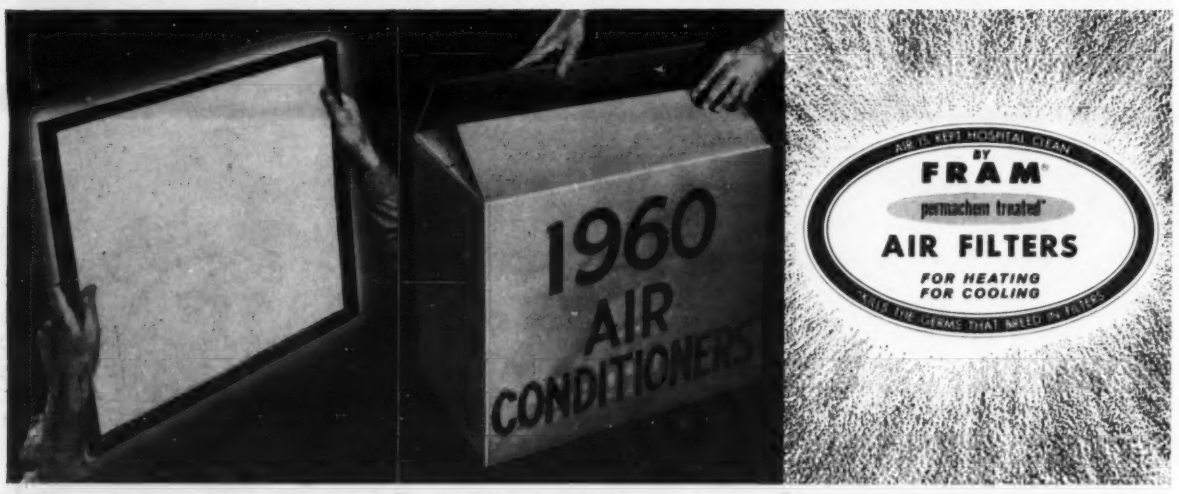
It was further found that the resultant confusion from two different types of machines, and the need for special training to operate the special one, did not seem to warrant continued use of the newer machine.

The program, to the best of my knowledge, was discontinued.

R. E. COCKLIN

NOW... from **FRAM**®...

world leader in **filtration** ... the sensational new **Fram** permachem treated **Air Filters that make big profits for you!**



NEW **FRAM** permachem treated **AIR FILTERS**

Kill 99+% of the germs that breed in filters • Stop mold, mildew, musty filter odors • Hold up to 34% more dust in AFI test procedures • Exclusive anchor-locked frame cannot settle, vibrate, blow, or soak loose • In sizes for all forced air furnaces and air conditioners, also rolls and pads.

IMMEDIATE ACCEPTANCE BY ORIGINAL Equipment Manufacturers

Eleven leading manufacturers of air conditioning equipment have already selected FRAM permachem treated Air Filters for original equipment in their 1960 models. (Their names will be announced in December.) FRAM's sensational plus features will be promoted by these manufacturers in their sales and merchandising programs.

POWERFUL ADVERTISING FEATURES THIS SEAL

Big-space ads in national magazines including THE SATURDAY EVENING POST, newspapers, and radio are telling your customers about the advantages of FRAM permachem treated Air Filters. Merchandising aids featuring FRAM permachem treated Air Filters are being used by original equipment manufacturers and are available to you.

"You've never made **such profit** from air filters before," says Theodore F. Low, President of Sims Corporation, Providence. "You can't miss with Fram's profitable pricing policies, selective distribution, merchandising support, and Fram's famous money-back guarantee."

GET THE FACTS TODAY!
Write Dept. FAC, FRAM CORPORATION
Providence 16, Rhode Island

NFPA Publication Incorporates New Safety Standards

BOSTON—Important changes in fire safety standards are incorporated in a new and revised edition of the National Fire Codes recently published by the National Fire Protection Association, it was announced by Robert S. Moulton, technical secretary of the Association.

The six-volume 1959 edition is a compilation of the 177 standards developed by NFPA in the fields of flammable liquids and gases; combustible solids, dusts, chemicals, and explosives; building construction and equipment; extinguishing equipment; electrical installations; and transportation.

New material in the 1959 edition includes 60 new or revised fire safety standards adopted at the 1959 NFPA annual meeting. It also incorporates all amendments approved by the NFPA board of directors up to and including July 30, 1959.

Purely advisory so far as the National Fire Protection Association is concerned, they are used widely in the United States, Canada, and abroad by property owners, legal and insurance interests, and others responsible in the field of fire safety, it was noted.

The National Fire Codes ($7 per volume, $35 for the set of six) may be obtained from the Publications Dept., National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

Whirlpool Promotes R. W. Armstrong

ST. JOSEPH, Mich. — Robert W. Armstrong has assumed additional public relations responsibilities at Whirlpool Corp. with his promotion from manager of public relations for the RCA Whirlpool sales department to general manager of public relations for the company.

R. Armstrong

Juel M. Ranum, assistant to the chairman of the board and director of public relations, said Armstrong and his staff will continue to plan and conduct publicity and public relations activities for the sales department in addition to performing new duties in general public relations for the corporation. These will include stockholder relations, corporate activities and programs, and trade and consumer press relations.

In this new phase of his work he succeeds Maury Marshall, who has resigned to pursue doctoral studies at Michigan State university.

"Corrosion." By Frank J. Versagi—50¢ each.

Get your copy Mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

'Train the Trainer' Program Spotlighted at PHCIB Meeting

CHICAGO — The Plumbing-Heating-Cooling Information Bureau's "Train the Trainer" course, which will train qualified industry instructors to put the bureau's initial sales training course to work locally across the country, got the spotlight at the PHCIB'S second annual membership meeting in Chicago.

A detailed report of the successful pilot program recently completed in Dubuque, Iowa, pointed up the now-established value that this training course can have for contractors everywhere, according to the PHCIB.

The bureau's meeting was held at the same time as the Central Supply Association's annual meeting, and an important part of the CSA's program was a panel report made by wholesalers and contractors who took part in the Dubuque program.

Howard L. Spindler, president of the PHCIB, and Norman Wicks, executive director, explained the Train the Trainer phase of the program to PHCIB members after their description of the experience in Dubuque.

The PHCIB plans to conduct its first class for industry instructors in Chicago Dec. 7-11, Spindler said. This will be the start toward forming a corps of qualified instructors.

In other business, Morris Stein, chairman of the bureau's Finance Committee, reported a decision by the bureau's board of directors to amend the dues structure by establishing minimum dues for contractor, wholesaler, manufactures' agent, and manufacturer memberships. He pointed out, however, that except for these minimum, there is no change in the $1 per employe formula by which bureau members figure their dues.

The minimum the board established for contractor members is $5; for manufacturers' representatives, $10; and for wholesalers, $25.

The board determined two categories of membership dues for manufacturers — $50 for those who employ 50 or fewer and $100 for those who employ between 50 and 100. The dues basis is unchanged for manufacturers who employ more than 100 employes, continuing on the $1 per employe per year basis.

A report of bureau activities for 1959 was made by Norman Wicks, executive director. He mentioned that the PHCIB's expanding publicity program resulted in an outstanding showing in newspaper publicity during the last year.

The bureau's Employe Participation Program, directed to industry employes to show them how they can help build business by talking up the industry's products and services, was also reviewed.

Wicks reported that bureau membership in 1959 was 50% ahead of 1958 membership.

Cobell Opens 2 New Sales Offices

CLEBURNE, Texas — Cobell Industries, Inc. here has opened new sales offices in Oklahoma City and Houston, according to Sam Boyd, national sales manager.

Joe Anthony, sales engineer, will direct the sale of the firm's "Rangaire" air conditioning equipment in Houston. Luke O'Bannon will head the Oklahoma City operation.

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to
Insure Efficient, Dependable Operation
...use
KLIXON
Refrigeration Controls
KLIXON DOME MOUNTED PROTECTORS
permit maximum safe compressor performance under all conditions of load . . . shut the motor down when maximum allowable winding temperature is reached . . . automatically restart it when operation can be continued safely.
KLIXON MOTOR STARTING CURRENT RELAYS
complete the combination required to start and protect compressor motors. Their positive action over a wide range of voltage and long life eliminate starting troubles.
KLIXON HERMETICALLY SEALED THERMOSTATS
give reliable temperature control unaffected by frost, moisture, altitude or cross-ambient effect . . . available for heating or cooling applications.

Building and maintaining high quality product performance is of day-in-day-out concern to manufacturers of refrigeration equipment. That's why more and more of these manufacturers have found it a good policy to specify and use KLIXON Refrigeration Controls.

KLIXON Controls permit compressors to operate safely at maximum capacity . . . assure long compressor life . . . reduce costly service calls, repairs and replacements. The result . . . customer acceptance and continued good will.

Manufacturers of compressors, air conditioners, beverage coolers, show cases, heat pumps, etc. are invited to find out more about KLIXON Refrigeration Controls. Write:

METALS & CONTROLS
2411 FOREST STREET, ATTLEBORO, MASS., U.S.A.
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SPENCER PRODUCTS: Klixon® Inherent Overheat Motor Protectors • Motor Starting Relays • Thermostats • Precision Switches • Circuit Breakers

They'll Do It Every Time

by

Jimmy Hatlo

WELL, CHIEF--I'M ALL SET FOR MY VACATION-- JUST PICKED UP MY PLANE TICKETS--SEE YOU IN TWO WEEKS---
WHAT FLIGHT ARE YOU GOING ON? LET'S SEE YOUR TICKETS--- UBIQUITOUS AIRLINE--- COACH FLIGHT--NO-NO!! HERE, MISS POTHOOKS-- CALL B.X.A. AIRLINES--- HAVE THEM CANCEL THIS FLIGHT AN' PUT CHEDDAR ON A JET! WHAT HOTEL YOU GONNA STAY AT, CHEDDAR? WIRE THEM TO CANCEL YOUR RESERVATION- YOU GOT TO STAY AT THE POPPYCOCK---
THE BIG ARRANGER IS AT IT AGAIN! WHOSE VACATION IS IT ANY-WAY? CHED WON'T KNOW IF HE'S GOING OR WENT!
WHO'S GONNA COUGH UP THE EXTRA DOUGH FOR THE DE LUXE TRIMMINGS? NOT BOSSO! THE SWINDLE SHEET IS HIS PRIVATE GOLD MINE---
YOU CAN'T GET AWAY FROM THE @!!#!! EVEN ON TIME OFF!! HE'LL BE PICKING OUR NECKTIES NEXT!
HE'LL SEND A WIRE IN A DAY OR TWO--- "RETURN AT ONCE-- JUST THOUGHT OF SOMETHING!"
TRYING TO GET AWAY FOR A REST FROM THE ALL-SEEING EYE----
THANK AND OUR HAT IS OFF TO HERB GROSS, ST. JOSEPH, MISSOURI
10-13
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Side Glance at Warranties and Service

RESOLUTIONS condemning the five-year warranty on air conditioning and refrigeration equipment have been adopted in recent months by both contractor and wholesaler groups.

Such thinking well may be justified, and perhaps these resolutions may help clarify certain misunderstandings in that arena.

Without at this moment taking a stand either for or against similar action, the NEWS feels constrained to point out what could be a serious—yet natural—outcome should manufacturers shorten their warranties to a one-year period.

Pertinent question:

If a certain device is not guaranteed for more than a year, why should a manufacturer go to the expense of designing and producing equipment which will last much, much longer?

Even if covered only by a one-year warranty, a product should perform well for a considerably longer period, and no doubt it will. Today's automobiles carry but a 90-day (or 4,000-mile) warranty; yet nearly every single model gives satisfactory performance for far more than 90 days.

So what are we driving at? Let's come to the point:

Some time ago it was our privilege to inspect the plant of a major condensing unit manufacturer. In this factory parallel assembly lines were but a few feet apart.

On one line, compressors for refrigerators were being produced; on the other compressors for automobile air conditioners. Our guide (a top executive) volunteered that the refrigerator compressors were designed to last at least 10 years, but the automobile units had a life expectancy—by design—of no more than five years!

Reason: the latter were short-warranteed.

No doubt lesser warranties could mean some reduction in first cost; but service costs would rise in consequence. The latter development might benefit servicemen, contractors, and wholesalers, but hardly the general public.

Furthermore, in view of current delays in getting fast, efficient service, consumers might become even more irate if the frequency of service needs should increase, as surely would happen.

Our good friend Thom Muir, able and personable new executive secretary of RACCA, has been bugging us to take a Strong Stand against the five-year warranty.

Little, nagging observations like the above have kept us from doing so thus far. In the long run, satisfied *customers* will determine our industry's fate. Will shorter guarantees keep *them* happy?

Look Out for This Raw Deal

FREEDOM OF SPEECH — and your pocketbooks — are threatened by a new Internal Revenue Dept. proposal, to wit:

Money spent for informing your customers, stockholders, or employes about dangers inherent in proposed legislation would not be a tax-deductible cost of doing business.

Broad language of the proposed regulation applies to all levels—national, state, and municipal. Under its terms, money spent by a company to communicate facts or opinions about such matters as local zoning ordinances or state safety regulations would be "lobbying expenditures."

Basic concern with these proposals is the profound effect they could have upon the free communication of facts about public issues by businessmen, and upon the effective operation of our representative government.

One-sidedness surely would crop up if a businessman's legitimate interests conflicted with those of government agencies, which have no concern about tax deductions (in fact, they're probably against the *per se*).

It would be absurd to conclude that money not spent in an effort to influence legislative issues would go into profits and become taxable.

This would overlook both the fact that profits might be considerably less in the absence of such an expenditure, and the fact that companies faced with harmful legislation might attempt to cope with the problem in other expense-deductible ways.

Consequences particularly would be harsh and unreasonable upon smaller business firms which have the biggest need for representation, leadership, and similar services from trade associations.

Worst of all, it would be a denial of free speech—the cornerstone of our republic. Write your Congressman!

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'The Conscience of the Industry'

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"God grant that not only the love of liberty but a thorough knowledge of the rights of man may pervade all the nations of the earth, so that a philosopher may set his foot anywhere on its surface and say: 'This is my country.' "—*Benjamin Franklin.*

OFF THE CHEST

'HEADLINE ON MONAHAN SPEECH WAS MISLEADING'

Refrigeration & Air Conditioning Contractors Association
Washington, D. C.

Editor:

The headlines on Pages 12 and 13 of your Oct. 26 issue relating to Mr. Monahan's speech at Los Angeles, do not appear to be a fair statement of the content of Mr. Monahan's speech as given and as set forth in your issue.

The UA-RACCA Training Program for refrigeration and air conditioning apprentices is three year specialization in refrigeration and air conditioning and two years of training in the general principle of pipe fitting, including blueprint reading, layout, welding, and the like. Such training, we believe, produces an all around, qualified refrigeration and air conditioning journeyman.

Your headlines in the Oct. 26 issue accentuate the negative, saying that Monahan tells why the Union won't provide specialized training, whereas we feel that three years is sufficient to specialize, and again the headlines state that the refrigeration trainees get "only" two years of pipe fitting training. We believe that two years is sufficient.

We, of course, read your every issue with a good deal of interest and I know the members of our Association appreciate tremendously the story of the 1959 convention which you are running in the NEWS.

HENRY B. ELY,
Western Representative

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Cooperative Drive on Residential Market In Single City Suggested as Means of Improving Sales Methods

ATLANTIC CITY, N. J. — Predicting that 1960 will be an excellent year for residential building—in terms of dollar volume—Arthur S. Goldman, director of marketing for *House & Home* magazine, still believes that air conditioning will eventually become the No. 1 sales feature of the modern house.

An analysis of why that status hasn't been reached despite annual prophecies and some suggestions as to what the industry might do about it were offered by Goldman at the special conference session here inaugurated by Air-Conditioning & Refrigeration Institute during the 11th exposition of the industry.

Firms Too Busy Competing Against Each Other

"The most repeated charge leveled against the residential air conditioning industry is that it has been under-sold and out-sold, out-advertised," Goldman said. "It is accused of spending most of its efforts and money stressing competitive design or price advantage of trying to persuade the consumer he wants air conditioning at any price.

"It is my opinion that a cooperative effort could do much to expand the residential air conditioning market. I should like to propose that the members of ARI zero in on any midwestern city where residential air conditioning has never gotten off the ground. We would offer to help," Goldman declared. "I suspect the insulation industry, too, could be counted on to assist."

Suggests 3-Point Program

A three-point program was suggested by Goldman:

"1. A survey would be undertaken to find out what's behind consumer indifference and building profession indifference in that city.

"2. Based on the survey findings, a cooperative promotion would be beamed at the community's housing professionals—architects, builders, lenders, realtors, dealers, appraisers. One of the targets would be to feature air conditioning in every model house in town.

"3. A cooperative promotion would be undertaken to see what it takes to break through residential air conditioning's No. 1 obstacle—consumer indifference.

"The cost of such a project to each participating company would be negligible," Goldman believes. "The effort could prove very fruitful. Perhaps we could even develop an effective visual status symbol that would let the neighborhood know the 'Jones' have arrived—have air conditioning," he suggested.

Although consumer indifference is a major obstacle in selling residential air conditioning, this is related to the over-all problem of encouraging better workmanship, design, and the use of better quality materials in housing, Goldman indicated.

While some improvements have been made in the situation, the FHA appraisal system still does not offer much inducement to builders to improve the quality of their houses and the fixtures therein, according to Goldman.

"There is an urgent need . . . for an incentive system that would encourage superior construction, superior mechanical equipment, and to give recognition to the lower maintenance and replacement costs in a well built, well insulated, well wired, and mechanically well equipped home," he declared.

"In the absence of such a set of property standards or creative appraisal procedures, the minimum property requirements of FHA have become generally accepted as the only standard of quality," Goldman continued.

"And the net effect has been that in quite a few FHA offices, when the underwriting manual is interpreted too literally, many builders and their architects, who would like to include quality materials and equipment beyond the minimum property requirements, are not getting adequate credit for their added cost. . . .

"In other words, any increase in quality or amenities which FHA appraisers will not recognize in their valuations makes it impossible for people to enjoy a nicer home, for any increase in quality or amenities which has to be paid in cash may make it impossible for the buyer to own the house at all," Goldman said.

"Lacking confidence that any extra expenditure for quality or materials, for quality of design will be reflected in the appraisal, builders can hardly be blamed if they play safe and stick close to conventional designs and minimum standards where they can be sure their full cost will be reflected in the appraisal," he explained.

"What we need now for today's home building industry is a far more positive and dynamic approach and a valuation system intelligently calculated to make it at least as profitable for merchant builders to offer better quality, better design, better values," suggested Goldman.

Not only must the appraisal system be overhauled, but "a number of the nation's appraisers need to be re-educated," Goldman believes. "Many are too rigid in their thinking—too welded to the status quo—too willing to accept the market dictum of what is right—too prone to look backward at what the market had accepted a decade ago."

There are hopeful signs for improvement, however, Goldman indicated, citing trends toward recognition of housing quality in appraisals on the part of the United States Savings & Loan League, the National Association of Real Estate Boards, and the Society of Residential Appraisers.

"Now, what can you manufacturers, individually or collectively, do to make quality air

(Continued on next page)

THIS UNIT PRODUCES...
• EXTRA YEAR 'ROUND PROFITS
• CUSTOMER SATISFACTION
• POSITIVE HUMIDIFICATION YOU CAN SEE . . . FEEL AND DEMONSTRATE
WALTON'S PATENTED CENTRIFUGAL ATOMIZER

HERE'S WHAT'S SPECIAL ABOUT Walton HUMIDIFIERS . . .

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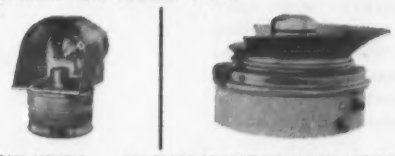
WALTON'S QUALITY

Walton humidifiers reflect the result of twenty-five years of pioneering and research in the field of humidification. Walton's sole product and interest is humidification, and the Walton name is your assurance of quality and performance. Constructed solely of non-corrosive metals, the units also offer electronic balancing of the single moving part for trouble-free, whisper-silent operation.

A SINGLE SOURCE FOR EVERY HUMIDIFICATION NEED . . .

RESIDENTIAL MODELS . . . FOR HOT AIR OR WET HEAT SYSTEMS



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Cooperative Residential Promotion--

(Continued from preceding page)

conditioning the No. 1 sales feature during the next decade? Here are the problems as I see it:

"How can we raise the level of public expectancy?

"How can we get the home buyers to demand air conditioning as if demanding a kitchen sink or a 'John'?

"Consumers need much more and much better selling on how much pleasanter, easier, and healthier it is to live in houses with year-round air conditioning. This is especially true of women, for not one woman in 20 realizes that cooling on hot days is only one of the many benefits offered by air conditioning. Not one woman in 20 realizes that in an air conditioned home, children eat better and sleep better; housework is easier; laundry bills and even doctor bills are smaller.

"The Du Pont 1956 study validates this. Where a considered buying decision has to be made in connection with residential air conditioning, comfort was the leading reason—48%. Next came existing heating conditions —32%. Third, health of adult family members—14%. To keep cool—11%. Will be expected in home of future—9%. For better sleep—6%.

Builder Could Make More Use of Conditioning With Pre-Sold Consumers

"The home builders could make more effective use of air conditioning to sell more houses if more home buyers were pre-sold on air conditioning and wanted it in their homes," Goldman said.

"Our executive editor, Carl Norcross, who has been following residential air conditioning for the past decade told me, and I quote:

" 'I don't believe there is more than a handful of builders who sell *all* the benefits. A few builders' salesmen like those at Fox & Jacobs talk about superior air conditioning layout and lower operating costs, but they never talk about all the other benefits. When Stan Edge (one of home building's ablest consultants) interviewed 750 women who had bought new houses and asked why they bought a new house rather than an old house, the No. 1 cause was that it was clean. So this idea of cleanliness is one of the hidden persuaders in new house buying.

A Whole Campaign Could Be Built On Cleanliness

" 'A whole air conditioning campaign could be built around cleanliness, because there is no doubt that the air conditioned house is a cleaner house.

" 'Other real motivating factors are better health, better eating habits (especially for children), better sleeping habits because in a dark, quiet room children can go to bed earlier and sleep better, and generally have better dispositions. The health angle, especially for children, is of very great importance, and a Houston pediatrician told me that there is not the slightest doubt that air conditioning improves children's health.'

"Another major reason why builders cannot sell air conditioning is that operating costs are high. They are needlessly high costs," Goldman declared. "Builders do such an inefficient job of designing and orienting their houses. They don't use enough insulation. They put large glass areas to the west, and their wide overhangs are not wide enough.

"In Texas the typical builder, when accused of doing these things, said, 'It is much easier to add an extra ton of cooling.' But this costs money originally, and the operating costs are much higher, too.

"Fox & Jacobs are teaching builders a lesson in this respect because they very fully insulate their houses. They watch the orientation and they claim their systems are so well engineered that they use fewer tons and have much lower operating costs.

"Perhaps, this is the reason why, contrary to fairly widely held belief, that the market for central air conditioning up to now has been largely in custom-built homes," suggested Goldman.

"The real challenge should be the built-for-sale market which now accounts for well over 80% of the market, and which, during the next decade is likely to go up to 90%.

"Selling the new house market builders should be much easier than selling the old house market because air conditioning costs much less in new houses, so there is less price resistance to overcome. Air conditioning in new houses is easier to finance on long-term (20 to 30-year) credit.

"The builders have such good reason for wanting to buy, because air conditioning should offer the home builders their one best chance to dramatize and accelerate the obsolescence of the 40 million family-sized non-farm existing homes and so stimulate greater demand for new houses among millions of present homeowners.

New Houses Set Standard

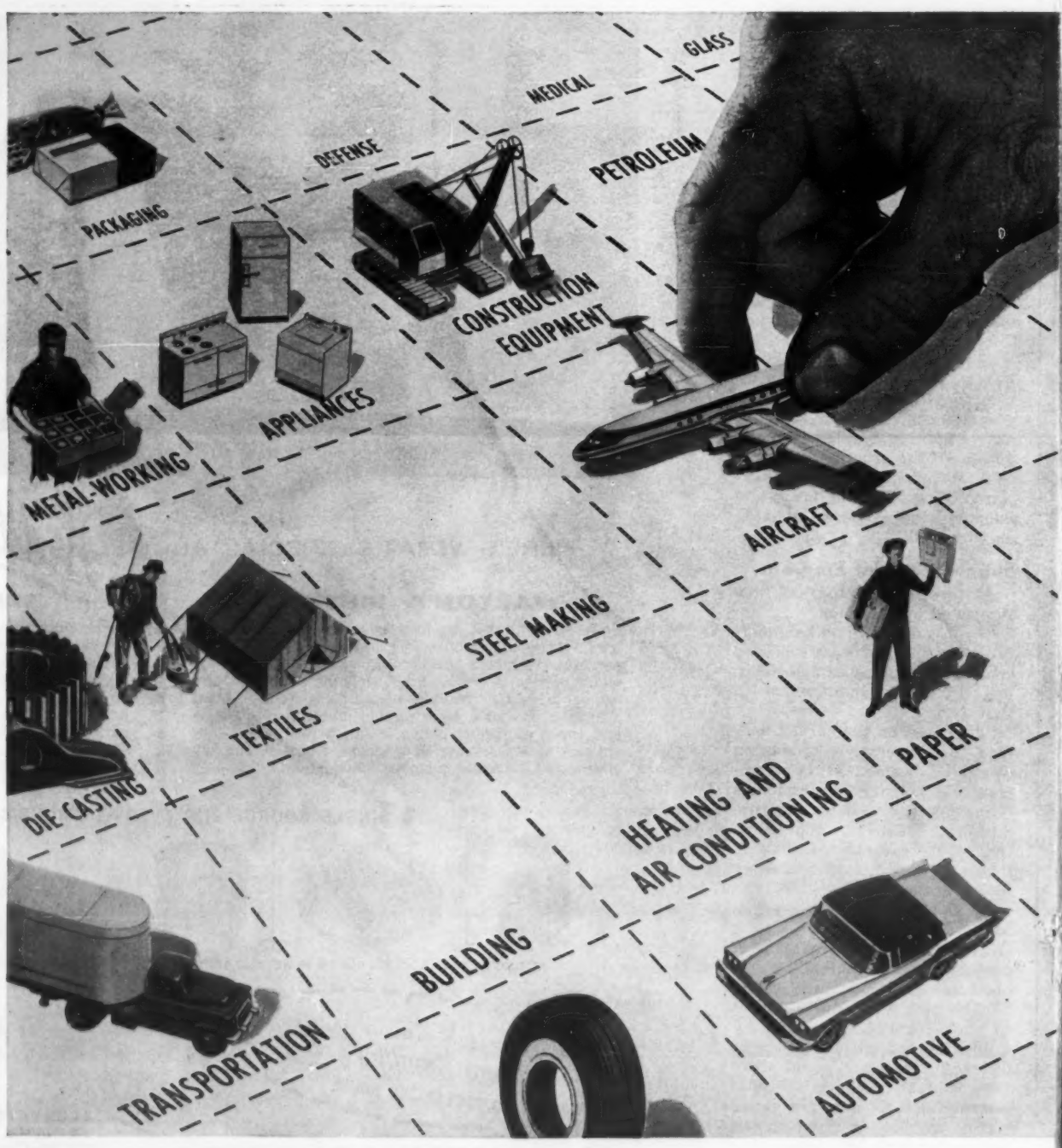
"Selling the air conditioning into more new houses is just about the best way to sell air conditioning into old houses too, for the new house sets the standard for improving and modernizing existing homes. By definition, 'modernization' means making old houses look and live like new houses," Goldman explained.

"Selling the new house market must begin with selling the appraisers and lenders, as the manufacturers have now learned the hard way. It also means selling the builders, who do all the buying for the big-build-for-sale market. And it means selling and educating the real estate salesmen who must sell air conditioning to the consumer as part of the house (and are as important to the manufacturer as grocery clerks are to General Foods, for the same reason).

"As the manufacturers step up their promotion efforts to make people want air conditioning, home builders and realtors would be very foolish not to step up their efforts to cash in on this promotion at the point of sales," Goldman believes.

"Without this builder-realtor follow-through, even the best advertising will be only half effective.

"All manufacturers have more to gain by enlarging the demand and the market for air condi-



M-R MIDLAND-ROSS CORP.

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tioning than from increasing their share of today's too-small demand.

"The model house offers all manufacturers an extraordinary opportunity to show their products to a captive audience of 40 million different people each year, all of them interested in better living and better homes. Of the 40 million only about one million will buy a new house this year. Most of the other 39 million are just shopping for good ideas for their present homes," he said.

"Only about 3,500 of the 120,000 builders spend the money needed to doll up a model house and bring out the crowds. Proper exploitation of the model house will require merchandising plans, sales aids, and sales training programs specially designed for the builders and prefabricators, who should soon be selling more air conditioning as part of their houses than the conventional dealers sell separately," he suggested.

Quite a bit of Goldman's talk was devoted to market forecasts for the building industry in general with special emphasis on the apartment house field.

". . . despite the perennial problems of tight money, land price inflation, and expected decline in the growth of the best customers for single family housing and air conditioning, the 35 to 55 age group, 1960 is due for the second biggest year since World War II," Goldman predicted.

"Even though the 1959 boom is slowing down, 1960 dollar volume will be off only 4.2%.

"Next year's volume of new housing should total about $17¼ billion ($16½ billion private and $750 million public) —$775 million less than this year's postwar high but almost $2 billion more than the biggest previous postwar year ('55)," Goldman said.

"Bigger and better houses, not inflation, will be the prime reason for next year's high volume," he explained.

Predicting a boom in building of apartment houses, Goldman offered several reasons for this:

1. The number of younger families and older families is growing faster than those in the 35 to 55 house-buying age bracket.

2. Some 45 million more people have crowded into metropolitan areas since 1929, but new apartments have hardly kept up with demolitions and conversions to business use.

3. Inflated land prices almost preclude single-family houses in big cities, so more and more families around the big cities will have to live in apartments if they don't want to spend two hours or more a day commutting.

4. More than half of today's apartments will have to be replaced by 1970 because they are delapidated or antiquated.

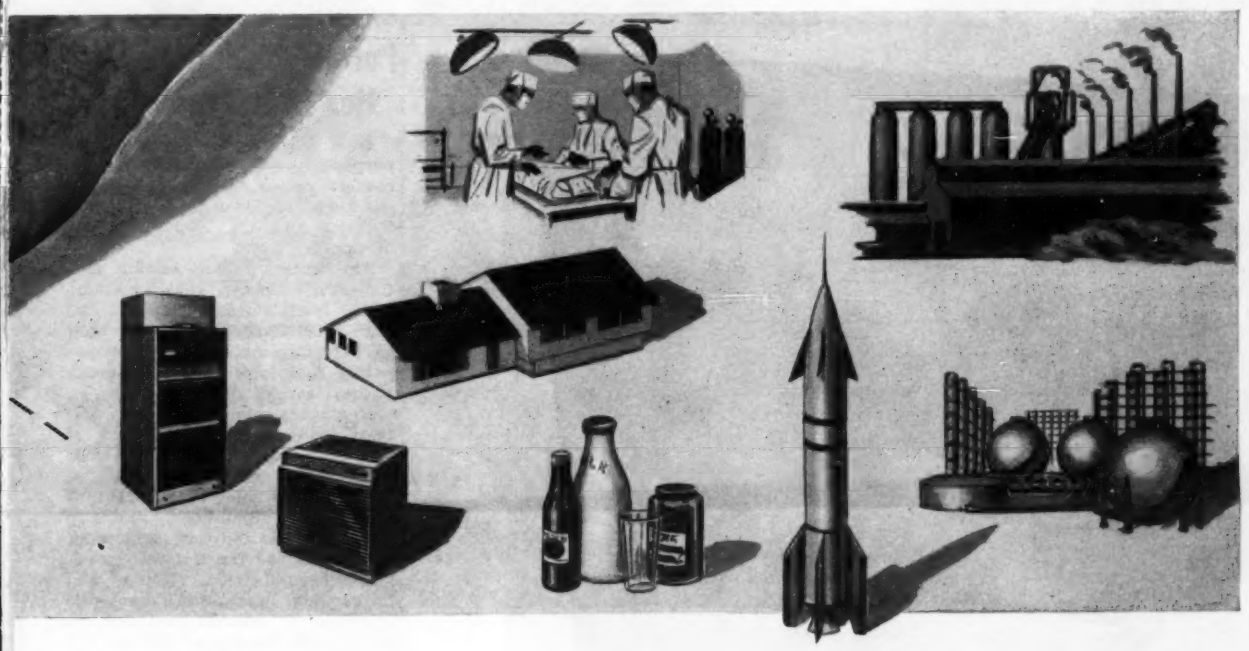
Although many apartments being built today lack adequate insulation and other amenities, the apartment house market in the next decade will represent not only a good market in its own right but a "fine seeding operation" as well, Goldman emphasized.

Just as many people became sold on electric refrigerators in apartment houses years ago, so likewise could young apartment dwellers become sold on air conditioning sufficiently to demand it in their homes when they later move to the suburbs, Goldman suggested.

Two More Groups Get Silver Shield License

PRESENTATION of the official operating license to the new Silver Shield Comfort Bureau of Davidson County (Tenn.) is made by Tom Byrd (left), president of the National Warm Air Heating & Air Conditioning Association. Accepting on the right is James H. Winters, president of the new group. The Davidson County group serves the Nashville area.

BERNARD LAWRENCE, on the left, president of the Mercer County (Pa.) Silver Shield Association, receives the operating license from James M. Martin (right), managing director of the National Warm Air Heating & Air Conditioning Association.



To serve even more industries even better...

MIDLAND-ROSS ADDS SURFACE COMBUSTION and JANITROL

On November 9, Midland-Ross Corporation acquired for cash the Surface Combustion Corporation, its Janitrol Divisions, and subsidiaries.

Midland-Ross's purchase of Surface is another step in its program of planned expansion into new products, services and markets. Surface and Janitrol fit this pattern ideally. No changes in management or operations are contemplated for the new acquisitions.

Already serving scores of industries, Midland-Ross will now add many other growth industries being served by Surface and Janitrol...steel-making, metalworking, ore processing, petroleum refining, glass, medical, and marine with Surface and Kathabar equipment...residential, commercial and industrial building with nationally advertised "Janitrol" oil- and gas-fired furnaces, unit heaters, and air-conditioning equipment...aircraft and missile with Janitrol Aircraft products.

Assets of the enlarged Midland-Ross organization are now over $70,000,000. Employees now total 5,800. Fourteen plants are located in six states and Canada. Sales in 1960 are forecast at more than $120,000,000.

For a copy of "Quick Facts about Midland-Ross, Surface, and Janitrol," write to:

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Automotive frames; process and production equipment for the paper, textile, rubber, plastics, and foil industries; pneumatic controls and compressors for mobile equipment; power brakes; die castings; metal-decorating, laminating and painting equipment; steel-mill equipment and heat treat furnaces; industrial ovens; humidity-control equipment; residential, commercial and industrial heating and air-conditioning equipment; aircraft, missile, and ground-support heaters, heat exchangers, and controls.

...INTEGRATED TO SERVE THEM BETTER

Power Conference Set for Chicago Mar. 29 to 31

CHICAGO—The 22nd annual American Power Conference sponsored by Illinois Institute of Technology, in cooperation with a number of technical societies and educational institutions, will be held March 29-31 at the Hotel Sherman here.

The conference is attended each year by more than 3,000 industrial and electric utility executives, engineers, educators, and government officials. Its purpose is to provide a forum for discussion of problems and exchange of information concerning the electric power industry and associated activities.

Inquiries concerning the conference should be sent to Conference Director R. A. Budenholzer, Mechanical Engineering Department, Illinois Institute of Technology, 3300 Federal St., Chicago 16.

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Decorator Thermostat Has Mercury Switch

● A decorator-styled mercury switch thermostat featuring a new concave circular design has been announced by American - Standard Air Conditioning Div., Dept. AH&RN, 40 W. 40th St., New York City 18.

This "Deluxe Mercury - Round" thermostat will be standard equipment on all American-Standard belt driven warm air furnaces.

The control is housed in a champagne bronze plastic case with a soft burnished finish, designed to blend with any type of interior decoration.

"The hermetically sealed mercury switch eliminates the possibility of dust or dirt interfering with the control operation," it was pointed out. "The contact circuit features soldered joints and flexible wire."

Fixed Pattern Marks Overhead Diffuser

● A new "Kno-Draft" KF fixed pattern overhead air diffuser, especially designed for use when no adjustment of air discharge is necessary, is offered by Connor Engineering Corp., Dept. AH&RN, Danbury, Conn.

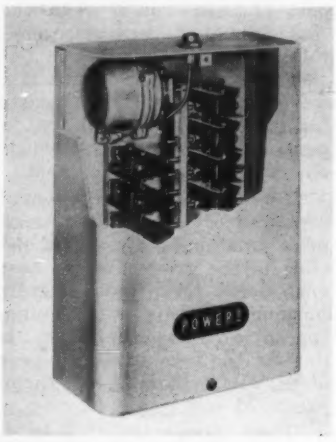
Features include a built-in damper, urethane foam plastic rim gasket for positive seal between ceiling and diffuser, and air discharge in single, circumferential pattern "that achieves maximum induction to eliminate drafts and equalize room temperature."

The KF's construction offers alternatives of connecting unit to duct collar or securing it to structural supports. It is available in several sizes and c.f.m. air delivery capacities.

Neoprene Coating Resists Weathering

● A new general-purpose, one-part neoprene rubber based coating that is claimed to provide excellent chemical, abrasion, and weathering resistance for the protection of metal, wood, concrete, cloth, and some plastics with the added advantage of reducing application costs is now available from the Adhesives, Coatings & Sealers Div., Dept. AH&RN, Minnesota Mining & Mfg. Co., 900 Bush Ave., St. Paul 6.

It is designated as "Coro-Gard 1706" Brand protective coating. Industrial uses are said to include, in the air conditioning field, protective drip pans, fan blades, cooling towers, tanks, and ducts against condensed moisture, mold, erosion and weathering, according to the company.



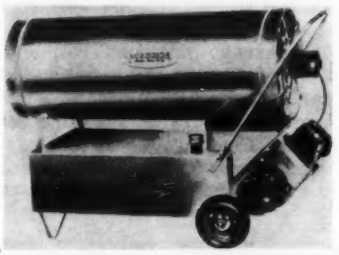
Powers Switch Gives Multi-Step Control

● A pressure-electric switch that provides step control of electric heat unit ventilators, fan systems, pumps, and refrigeration equipment is now available from The Powers Regulator Co., Dept. AH&RN, 3434 Oakton St., Skokie, Ill.

Called the MS (Multi-Step) Switch, the device consists of a pneumatic motor which actuates a series of electric switches in response to a pneumatic signal.

The company said the product is particularly adapted for use with unit ventilators having electric resistance heating elements.

"In this way, each element is energized in sequence in response to changing air signals passed by a pneumatic thermostat," it was pointed out. "The result is smooth, gradual control of heat output. Similarly, the MS Switch can be used to provide sequence operation of other electrical equipment."



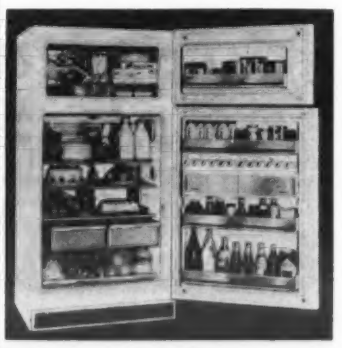
Portable Space Heater Has 18-Hr. Fuel Tank

● A new line of portable, all-purpose, fully-automatic utility heaters called "Weather Master" has been placed on the market by Siebring Mfg. Co., Dept. AH&RN, of George, Iowa.

The heaters produce instant heat for farm buildings, garages, emergency heat, building construction, and other applications, according to the company. An 18-hour capacity fuel tank is said to make it ideal for all night heating.

Regarding operation, the company said an electric cord is plugged into a regular 115-volt, a.c. outlet, "and with a flick of a switch, everything else is automatic — the Siebring automatic ignition turns on fuel, ignites it, and starts the fan."

The combination electric and oil-burning heaters are available in sizes of 200,000 and 300,000 B.t.u., with weights of 156 and 175 lbs. respectively. Weather Master heaters can be operated on kerosene, No. 1 or No. 2 fuel oil.



Kelvinator Rushes 7 Models of '60 Line

● Early introduction of seven new 1960 refrigerator models was announced by Kelvinator Div., American Motors Corp., Dept. AH&RN, Detroit 32, because of the "heavy run on 1959 models," which boosted dealer billings by 40% in the first nine months of this year over the same period of last year.

The new models include the "Foodarama," an 18-cu. ft. upright freezer and automatic defrosting refrigerator. Other models range from a 13.1-cu. ft., two-door refrigerator-freezer down to 9.5-cu. ft. "Space Saver" models.

Distributor prices for the 1960 models have been increased an average of 2% over comparable 1959 models.

A choice of three exterior colors is available.

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Where and How Defense Department Uses Air Conditioning

By Thomas R. Casberg,
Mechanical Engineer In Charge of Air Conditioning, Office of Asst. Secretary of Defense for Properties and Installations

In order to present a complete report of the talk of Thomas R. Casberg before the Conference Session at the 11th ARI Exposition, the NEWS is publishing it in instalments, the first of which appeared in the Nov. 23 issue.

(Continued from last week)

The policy issued by the OSD is called an "Instruction" and I would like to explain some of the basic points and the reasoning behind these points. First, let be assure you that the Department of Defense believes in air conditioning and its benefits. In several fields we are probably the leaders in its use. I am thinking of hospitals and training facilities especially. However, because of the tremendous costs involved we have had to specify those areas where we believe the lack of air conditioning will not seriously affect military operations.

In the areas where we believe air conditioning is essential we have had to determine a priority system so that our limited funds will be applied to the most needed cases first. These restrictions have brought many industry representatives to my desk to register objections about the policy. Usually a definite project at a base is involved.

I believe the former Prime Minister of Great Britain, Sir Anthony Eden, described this situation best by saying, "Everyone is in favor of the general economy and the particular expenditure."

Priority Established

In the policy we have established a general priority list which reads:

1. Direct military operational facilities.
2. Hospitals and related medical or dental facilities.
3. Training facilities.
4. Technical and industrial facilities.
5. Indirect military operational facilities.
6. Administrative facilities.
7. Morale and recreational facilities.
8. Personnel living spaces.

For the first seven categories air conditioning is permitted anywhere the 67° F. wet bulb exceeds 1,000 hours during the six warmest months of the year. For personnel living spaces the criteria is 2,200 hours. I believe these categories are self-explanatory except for the difference between direct and indirect military operational facilities.

Direct would include such facilities as aircraft traffic control rooms in or near alert hangars and underground command posts. Indirect would include facilities such as electronic computing rooms, dining halls and communication facilities.

Base Commander Decides

This is not a strict priority system. It is expected that the Base Commander will exercise judgment in selecting projects and that facilities in the higher categories will be considered first. We are pleased by the manner in which this latitude of choice has been exercised.

Our selection of a 1,000-hour line was influenced in part by the use of air conditioning in business and industry, in part by requirement studies, and by the availability of funds.

Our limitation of air conditioning in personnel living spaces has not had the concurrence of industry. I do not believe the industry thought this problem through before criticizing this part of the policy. Since we are dealing with public funds we are obligated to be good trustees of these funds.

In 1955 we noted that industry leaders were stating only 2% to 3% of the homes of America were air conditioned and accordingly our original policy did not permit this feature in quarters. We did not believe we could spend the taxpayer's funds for that which he did not have himself.

The advent of the Capehart family housing program and the dramatic increase in residential sales indicated a re-evaluation of policy. Where FHA said comparable housing was being air conditioned, exceptions were granted to so equip Capehart housing. This immediately pointed up a serious morale problem particularly on bases where there were existing family quarters for bachelor officers and enlisted men.

Hence, the revised policy issued last November was based on two points. First, the hottest areas would be conditioned first. Second, all personnel living quarters would be treated equally. To us this appeared to be the only logical approach.

A survey of all military housing revealed that $166,000,000 would be needed to air condition all family housing, bachelor officer quarters, dormitories, and barracks where uncomfortable conditions existed at least 50% of the time. This is the 2,200-hour line and above since there are about 4,400 hours in the six warmest months.

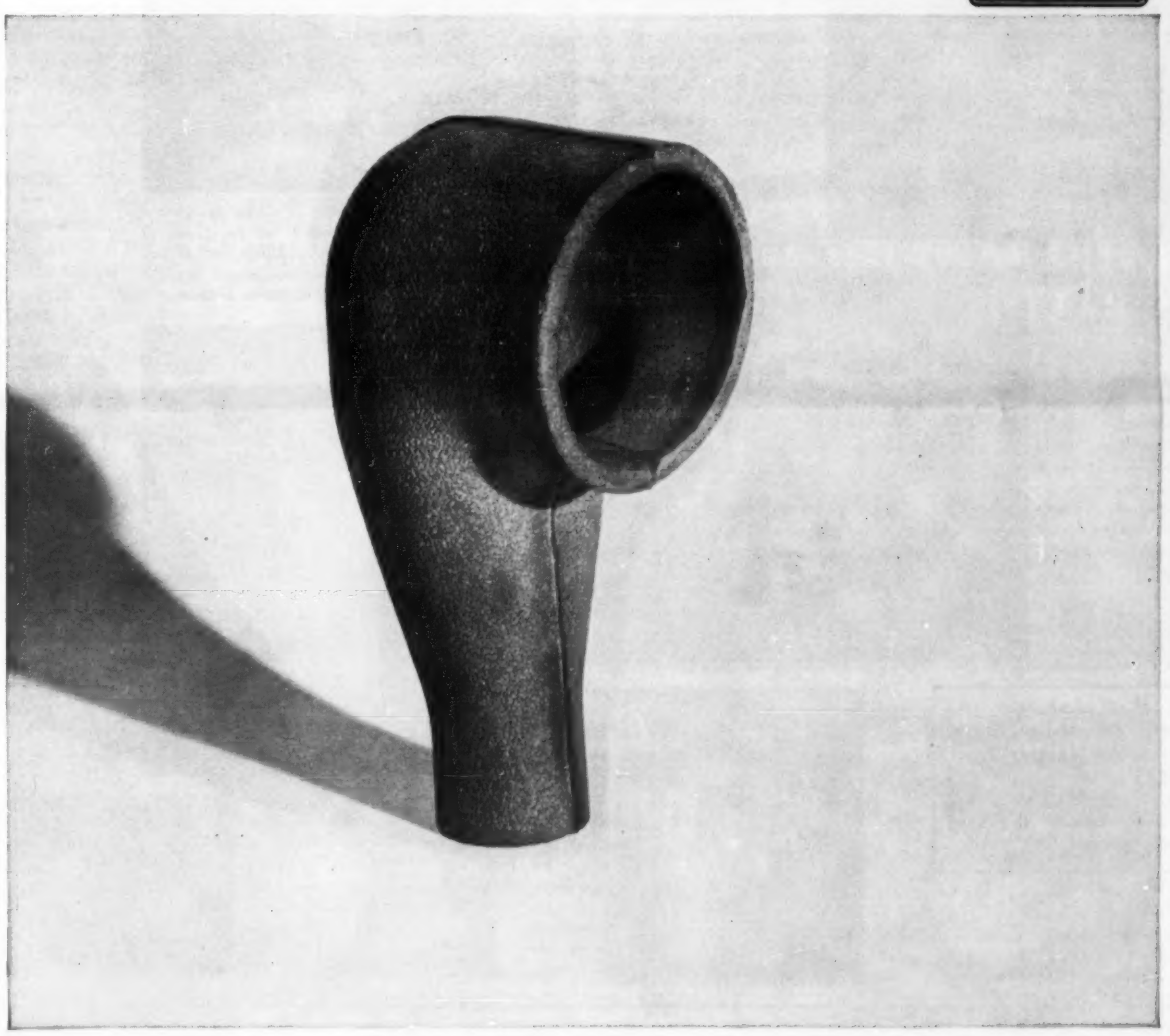
Air conditioning in existing structures is considered a modification or alteration and funds for this work are obtained from that maintenance and operation fund which I previously mentioned was receiving close study.

Last year the military departments found it prudent to spend about $20,000,000 for air conditioning in existing buildings. Now this was not for existing housing alone but for buildings in all eight of the categories I noted before. The lion's share, and rightly so, was spent for air conditioning of military operational facilities, hospitals, dental clinics, classrooms, technical facilities, and administrative areas.

I believe you can now understand, considering the hottest areas first criterion, why we don't have to be concerned with the 2,200-hour limitation for several years. Even if the entire amount was spent for air conditioning of quarters, it would take eight years to reach the 2,200-hour line.

(To Be Continued)

B.F.Goodrich



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So get the advantage of the experience that has put B.F.Goodrich cellular materials into The Sheraton Hotel, Philadelphia; The Conrad Hilton, Chicago; The Corning Glass Building, New York and many other New York office buildings. Write The B.F.Goodrich Company, 580 Derby Place, Shelton, Connecticut.

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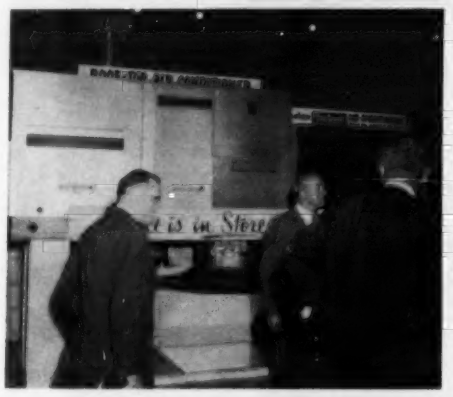
B.F.Goodrich ***industrial cellular materials***

What Was New

***NEW PRODUCTS GALORE** were on display at the 11th Air Conditioning & Refrigeration Industry Exposition in Atlantic City. On this page the NEWS presents pictures of some of the new products and other displays at the show. Earlier picture coverage appeared in the Nov. 16 and 23 issues of the NEWS. Additional pictures are scheduled for a later issue.*

ODOR AND MOISTURE elimination in commercial refrigerators is the function of this "Vita-Aire" device which is now being offered by Federal Refrigerator Co.



MELCO ROOF-TOP year-round air conditioner to provide cooling and heating for single story building attracted visitors to the Melchior, Armstrong, Dessau Co. booth. The unit takes all equipment out of the store and puts it on the roof.

PARAGON MODEL 8200 series time control with adjustable fail-safe protection gets close study from Kenneth R. Duncan of Duncan Supply Co., Indianapolis (l.) as F. T. Hanson, product specialist for Paragon Electric Co., runs over features.

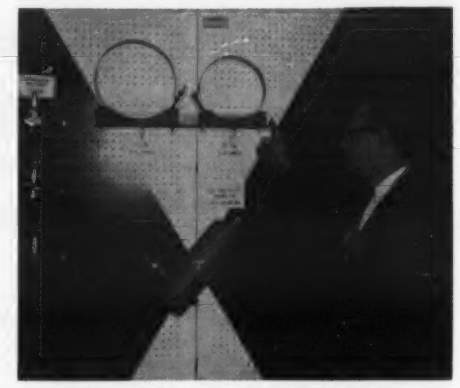
Many of the photographs appearing on these pages were taken by Austin Jones, Kerotest Mfg. Co., who has been photographing industry shows and other industry events since the 1930's.

NEOPRENE COVERED vibration eliminator for dampening noise and vibration in piping is exhibited by Jack Doyle of Anaconda Metal Hose Div., American Brass Co. (r.) to Walt Carney of Toronto, Ont., Can.

EMPHASIZING THE NEW CONNECTION between Detroit Controls Co. and Remco, Inc. (Detroit is now exclusive sales representative) Donald C. Deakyne (r.), Detroit product engineer, explains demonstration board showing effectiveness of Detroit-Remco molecular sieve drier to Charles F. Collins of Worthington Corp.

ANTICIPATING A PLAYFUL shot of Chemical Solvent Co.'s new "Solvex Spray D-Greas-X" at the hands of Olivia Berkey, general manager, is Albert Lew of San Antonio, Texas. The product is a pressurized spray to degrease electrical equipment or other products.

BALLY WALK-IN FREEZER for ice cream storage gets careful consideration from Warren Campbell and Edward Bernard of Allied Parts Co., Philadelphia, as Bally Case & Cooler Co.'s Cliff Finn (r.) demonstrates.



STANDARD REFRIGERATION CO.'s display featured new mounting brackets, "Rotolock" valve flare (l.) and heat pump receiver (below), points out Dwight Orr, sales engineer.

NEW BY-PASS valve with single control, for use in induction type air distribution system and fan-coil units, was featured by Clayton Mark & Co., and gets the attention of Russ Duncan, Indianapolis supplies wholesaler, and his son, Kenneth Duncan.

NEW CHARGING HOSE in three colors—red for high side, green for low side, white for charging—and new packaging of other products are shown to Robert Milne of Montreal (center) by F. N. Robson (l.) and D. E. Hughes of Superior Valve & Fittings Co.

NEW FOUR-WAY REVERSING VALVE is shown by Robert Gray (r.), representative of Product Engineering, Chicago, to Harold Rowland of Lehigh Mfg. Co.

SELF-CLOSING "SERVUE" Barrdors for upright freezer displays that include shelves, baskets, shelf supports, and lights attracts Frank Hiltonberry of Milwaukee (light coat), who finds himself surrounded by Barr Mfg. Co. officials. They are (from l. to r.) G. W. Chilson, Nicholas Crisafi, Harry Richman, and Harry Norager.

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FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES

Installation & Service Practices In Commercial Refrigeration

One of a group of discussions on several phases of the installation, operation, and servicing of commercial refrigeration equipment.

By Frank J. Versagi

Customer Relations (2)

Although refrigerated display cases are much alike (One chain calls them the Fords, Chevrolets, and Plymouths of the industry), there are features which may cause preference for one case over another. Instances which come to mind: "So-and-so's meat cases never fog up like the others." "In Blank's service meat cases, water backs up or drops into the fluorescent ballast, burning the unit out." Condensate water hits the fan in ..... fixtures."

Chains like to work with three suppliers since "It would be unwise to work only with one; using more would be inefficient." Most will buy special fixtures from other sources as the occasion arises.

"We are not concerned with quality," offered one chain, "since the general level of quality among the major manufacturers is quite comparable." This same source admitted "playing the suppliers against each other in nudging them to provide good service and products."

Two or Three Years Needed for Happy Relationship To Develop

"It takes two or three years for a manufacturer to get to know a chain well enough for each to be happy most of the time during their relationship," stated another in explaining the reluctance of chains to change their approved list without very sufficient cause.

Price, while a factor, does not seem to carry the weight in deciding on equipment as it does in other areas of the refrigeration and air conditioning industry, according to the chains. (Manufacturers complain, however, that prices have been forced down as much as 14% in the last year and a half.) On a job followed by the NEWS, one manufacturer's price for 21 assorted fixtures was $18,730; a competing line, $17,244.

Another: 15 compressors on 2-unit stands; first manufacturer, $6,390; the second, $6,341.

Occasionally, for reasons impossible to determine, one manufacturer's equipment will go sour in epidemic proportions. Recently, a large chain in Baltimore pulled out over 200 fixtures of one manufacturer and removed the manufacturer from the approved list in that area.

In Kansas City, one manufacturer paid $8,000 for losses of product when a group of units failed. One time, the NEWS was in a budding supermarket when it was discovered that the entire shipment of compressors for the store had arrived without oil charges.

Another time, the NEWS was sitting in the office of the service manager of a manufacturer when a call came in from a supermarket manager who wanted several hundred dollars for meat spoilage which had just occurred. When the service manager asked for details, it became evident that the meat was not yet spoiled, but "was changing color."

"Send me the discolored meat for use in one of local restaurants," suggested the service manager, "and we'll pay you for it." A practical suggestion in this case because the store was not very distant from the manufacturer. To this suggestion, however, he received a negative reply and the acknowledgement that the case "seems to be holding all right now."

The service manager explained that it is not unusual for store operators to claim spoilage costs, then sell the product anyway. "Unfortunately, most supermarket operators have little regard for the quality of the refrigerated merchandise," he opined. "They apparently feel that in some magical way, the food always stays good no matter what happens to the units or the handling."

That this opinion is not entirely unfounded is evident from the several calls the NEWS has made to supermarkets with servicemen where, say, a frozen food case has gone bad for several hours or overnight. In only one instance did the market manager act on the service organization's suggestion to pack dry ice into the case to protect the product until the case was repaired. In all other instances, the frozen food rose in temperature, well beyond recommended limits, and the repaired case then had to pull the product temperature back down.

Stores See Present Lines Being Neglected for Research and Development

Returning to another complaint of the market operators; the NEWS has been told repeatedly "Commercial manufacturers are obsessed with research and development for the future. So much so that the improvement of present products is neglected."

Voicing this complaint more specifically, a divisional construction manager stated, "These people go crazy over styling, but our clerks are still lugging and moving shelves around in the same way they did ages ago."

When it comes to particular designs, however, it is difficult to get agreement. On meat display cases, for example, there are those operators who deplore what they call "the fumbling and clumsiness" in cases with refrigerated understorage; these people tend toward vertical cases. Others swear by the convenience of refrigerated understorage.

The recently offered combination dairy display cases and coolers which make use of a flow of air as a curtain or screen are getting mixed reception. Some have taken to them enthusiastically because of the obvious advantages they offer in display and handling of products. Others have reservations. "I can see such a case would be advantageous in some spots," muses one executive, "but not where we have 36 ft. of dairy cases. We just don't need and couldn't afford that much back-up space for coolers."

Store operators concur vigorously with the manufacturers' concern over the caliber of installation and service available. "Some installing contractors never look at the manufacturer's recommendations, and they install a supermarket as you or I might assemble a do-it-yourself dinette table," complains one market supervisor.

"I've seen installers lay aside the manufacturer's bulletins which accompany the fixtures only to discover—hours and dollars later—that they should have done it the producer's way in the first place."

The serviceman/installer is weak on proper evacuation of a system, both market operator and manufacturer agree.

"When something is wrong on a system, the serviceman tends to play with defrost."

Borden Suit Dismissal Asked by Missouri

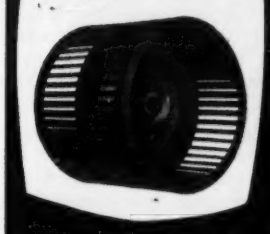
JEFFERSON CITY, Mo.—Dismissal of Borden Co.'s suit for an injunction to withhold enforcement of the new state milk price law was asked in a motion filed in Cole County Circuit Court by Attorney General John M. Dalton.

Among other things, the law makes it illegal for dairies to provide free refrigeration equipment to retail milk outlets. Borden charged that the law was unconstitutional, vague, indefinite, and impractical of application.

Dalton's motion claims the suit fails to state a claim.

Intent of the legislation is to prevent big dairies from invading territories of smaller ones by selling below cost.

NEW!



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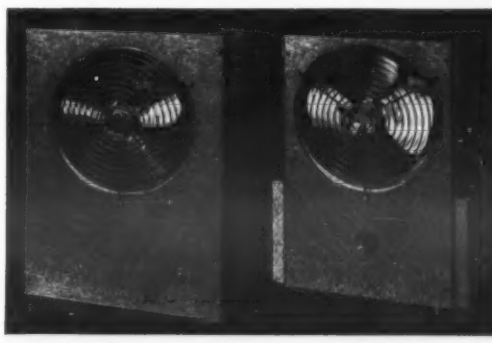

NEW Krack Dry Box Bottle Coolers

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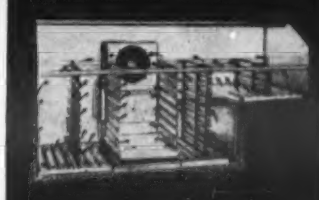

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0517

TECH CENTER

by Frank J. Versagi, Technical Editor

Applied Electrical Theory (Part 4)

Parallel Circuits

Just as a series circuit is described as one in which resistors are connected end-to-end, **a parallel circuit is one in which the resistors are connected side-by-side across the voltage source.**

The three bulbs in Fig. 1b are wired in parallel; a conventional line drawing for such a circuit, Fig. 1a, clearly depicts the side-by-side arrangement of the resistances.

Utilization wiring in dwellings and most commercial-industrial structures is designed for parallel application of electrical loads. The newer Christmas tree lights, the ones which **do not** all go out when one bulb fails, are in parallel.

Several characteristics of parallel circuits have immediate practical significance. Notice first the full brilliance of the three 25-watt bulbs in parallel. The same three bulbs in series, across the same 120-volt source, burn considerably dimmer, Fig. 2. A discussion of volts, ohms, and amps in a parallel circuit will indicate why this is so.

The voltage drop across each resistance in a parallel circuit is the same and each IR drop equals the emf of the source. A voltmeter across any of the resistors in Fig. 1b will read 120 volts, the same as directly across L1 and L2. Mathematically, V-sub-1 equals V-sub-2 equals V-sub-3 equals V-sub-S.

A parallel circuit may also be shown as in Fig. 3.

This diagram indicates that electrons (e) from the power source may flow through more than one path on their way from and to the emf source. All of the current must flow in L1 and L2, but the total electron flow is divided among the three resistances. If the resistance of each device is equal, the current draw through each will be equal. If the resistances are unequal, the current draw through each will be unequal.

In both cases, the total current drawn will equal the sum of the individual currents in each branch, or leg, of the parallel circuit.

Assume a household living room circuit, fused for 15 amps. All devices are in parallel when plugged into wall outlets, with three lamps, the TV, and an air conditioner operating simultaneously. For discussion the lamps, together, are drawing 1.5 amps, the TV is pulling 1 amp, and the air conditioner is drawing 7.5 amps. (Figures 4 and 5.)

Plug in a 10-amp iron so the wife can iron which watching TV in the air conditioned living room, and the 15-amp fuse will open under the 20-amp load.

Each leg of the circuit draws its portion of the total current, but **all** the electrons must come from and return to the emf source, through the fuse for the circuit. An ammeter placed at A-sub-T will record this total amp draw of all the devices on the circuit. Remember, the amp draw through branches of a parallel circuit are equal only if the resistances in the several legs happen to have the same ohm-value.

* * *

Total resistance, in a parallel circuit, is **not** the sum of individual resistances. Instead, **total resistance in a parallel circuit is always less than that of the lowest individual resistance.**

Assume a 2-device parallel circuit containing an iron with 10Ω resistance and a toaster with 23Ω. (Fig. 6.)

Using Ohm's law as in a series circuit, we would add the resistances and divide them into the voltage to get amps:

$$I = \frac{E}{R} = \frac{120}{33} = 3.6 \text{ amps}$$

Actual measurement, however, shows the toaster draws 5 amps and the iron draws 11—a total of 16. According to an Ohm's law transposition:

$$R = \frac{E}{I} = \frac{120}{16} = 7.5\ \Omega$$

7.5 ohms is the actual total resistance in this circuit, and this ohm-value is less than the lowest individual resistance, 10 Ω.

The formula for finding the total resistance (R-sub-T) in a parallel circuit is:

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \dots$$

In our example:

$$\frac{1}{R_T} = \frac{1}{23} + \frac{1}{10}$$

Usually, the easiest way to calculate is to convert the fractions to decimals: (Divide 23 into 1 and 10 into 1.)

$$\frac{1}{R_T} = 0.043 + 0.10$$

$$\frac{1}{R_T} = 0.143$$

$$0.143\ R_T = 1$$

$$R_T = \frac{1}{0.143} = \text{7-plus ohms}$$

Seven ohms approximates the 7.5 obtained by calculation from field-measured amps and volts.

The calculated R-sub-T can then be used in any Ohm's law calculations.

* * *

Summarizing:
In a parallel circuit,

Voltage across each resistor is the same and equals the applied voltage.

Total amp draw divides among the parallel branches in the circuit and may differ in each branch.

Total resistance is always less than that of the lowest individual resistance.

Next. PRACTICAL COMPARISON BETWEEN SERIES AND PARALLEL CIRCUITS.

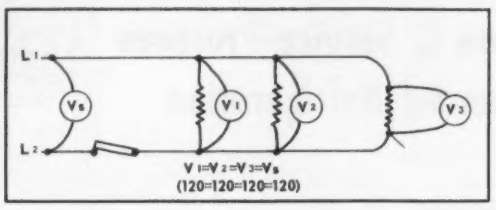


FIGURE 1a

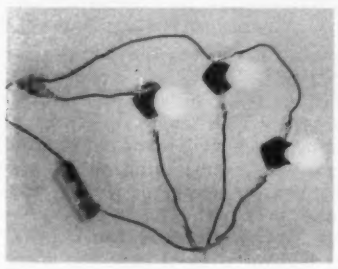


FIGURE 1b

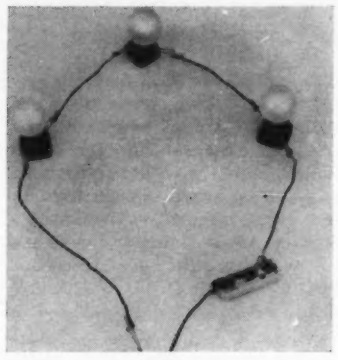


FIGURE 2

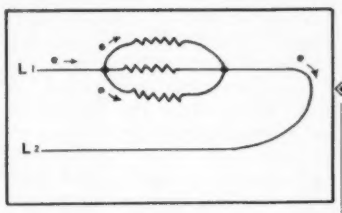


FIGURE 3

FIGURE 4

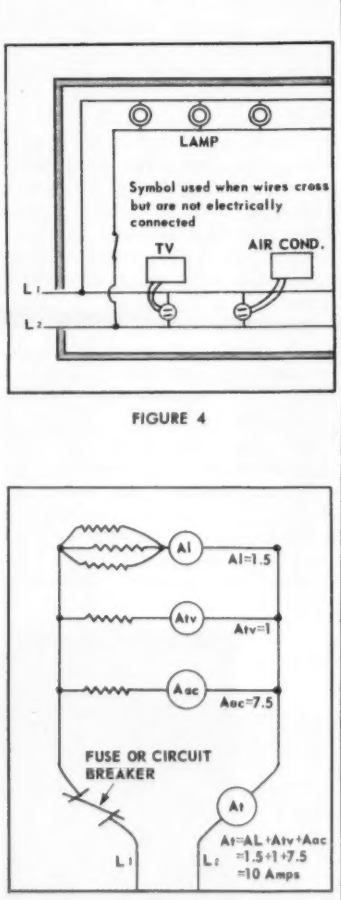


FIGURE 5

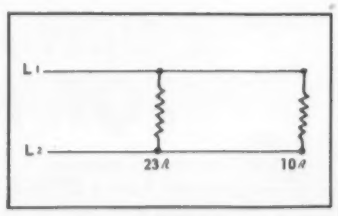
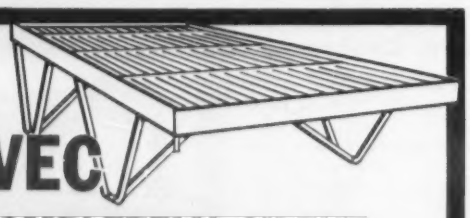


FIGURE 6



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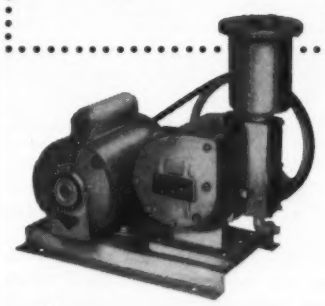

Completely removing water vapors and other condensables before introducing refrigerants stops formation of corrosive acids that will cause operating trouble and damage to equipment. These new Stokes pumps were designed specifically to give you that extra protection. All this is accomplished at room temperatures; no heating, torching or bake-out. And look at their features! Rugged, reliable industrial construction, fast-pumping, lightweight, compact, portable, quiet . . . giving you *more performance per dollar than any comparable pump!* For full information, just print your name below and attach this ad to your letterhead.

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NEWS' CLASSIFIED ADS

Consulting Engineers Council--

(Concluded from Page 1, Col. 4)

engineers" (consulting engineers don't care too much for that designation) who allegedly will do all the "design" work on a major mechanical contract, and especially those who solicit such work in an active fashion.

Some of the manufacturers have gone on record to the Consulting Engineers Council as being definitely opposed to such practices, and of having made this known to their representatives. However, many of the individual engineers present at the council meeting reported that despite such actions, they continue to encounter the problem in the field.

Feeling Appears To Be Spotty Geographically

However, a round-robin discussion revealed this feeling to be spotty geographically — in some areas the practice of engineering by the manufacturers' representative was said to be growing, in others, virtually non-existent. Some of those participating in the discussion volunteered the opinion that such practices were worst in areas where long-time representatives were still in the picture.

What the engineers want, apparently, is adherence to the policy which one manufacturer claims he subscribes to, namely:

"It is not incumbent on the manufacturer to make the design to be specified."

Results of a survey of 71 air conditioning and heating equipment manufacturers were reported by Council Executive Secretary Larry N. Spiller. Firms included in the poll were asker to indicate, from a listing of 56 major U. S. distributing centers, the names of local agents, and whether or not such agents performed design engineering.

Quoting from a number of replies, Spiller said it was obvious that there is a growing awareness among manufacturers of the consultants' feeling with regard to agent-design competition, and a readiness to take action to prohibit such activity.

The relationship of the engineers with architects is primarily in the hands of a committee that meets with the proper committee of the American Institute of Architects to consider such matter as "division of responsibility" in design of new construction and the wording of contracts (the engineers apparently desire a less "all inclusive" wording in the contracts).

'Moonlighting Discussed'

A subject of considerable concern is that of "moonlighting," particularly by government employes. The practice is frowned on by government agencies where there is any chance of conflict of interest. A question arises when government engineers take on part-time projects as consultants which may be ultimately checked and approved through the government agency where they are regularly employed.

The engineers were told of a lawsuit being bitterly fought in the New Jersey courts, wherein architects groups are claiming that an engineer designed a couple of relatively minor structures in contravention of state laws.

The issue of law involved in this case, some feel, is whether the public power of state can be used to reserve the right to design buildings to architects.

Fee Structure Viewed As Another Problem

Another major problem with the consulting engineers is the fee structure for their services. Some of the local groups are studying and surveying actual fee structures in an effort to develop "recommended practices" but there is no intent to try to obtain a "national" fee schedule or any belief that such an ideal is obtainable at this time.

However, in a discussion on ethics it was brought out that consulting engineers must be sure that their own house is in order before criticizing other factors with whom they work, and in the matter of ethics, "reasonable" and "in line" fee schedules were considered of prime importance.

Cited was an instance of a major construction contract in Missouri in which the wide variations in fees prepared by consulting engineers who were after the job was the subject of widespread comment in the construction field. Steps are said to be under consideration to hold a hearing before the state professional engineers society to determine the reason for this situation on fees.

Ultimate Responsibility

Another phase in the relationship between consulting engineer, architect, and contractor, is the question of ultimate responsibility for the job (readers may recall that this was debated at some length at the annual meeting of the Mechanical Contractors Association earlier this year, which discussion was reported in the NEWS).

The matter of responsibility for the job has implications not only as concerns liability for non-performance or dissatisfaction, but also where an injury or damage to individuals is involved.

An example was cited of a court case in Louisiana involving a boiler explosion on a new construction job, which resulted in the accidental death of a workman. A lower court found the architect the responsible party, it was reported, on the theory that he had the over-all responsibility for the job, and a higher state court upheld the verdict and upped the award for damages.

Another area in which the consulting engineers will strive to protect their interests is in government construction projects. In this they are challenging the growing trend of bureaucratic thinking which believes the government has sufficient engineering talent to design government projects, to which the engineers report "not so, and not fair."

The consulting engineers also heard some revealing facts and opinion about their profession on a world-wide basis from Gail A. Hathaway, Engineering Consultant, International Bank for Reconstruction and Development, (The "World Bank").

"We feel it necessary to take even more than ordinary banker's care in considering and investigating loan proposals," Hathaway said. "For example, we have to be satisfied that the engineering plans have been competently drawn, that the project is suitably designed and that construction will be entrusted to competent hands and will be properly supervised. In making the necessary preparations for a successful project we believe that considerable advantages can often be obtained if the borrower calls in consultants for the planning, design, and supervision of construction.

"Employment of consultants can protect the borrower against unnecessary expenditure due to imperfections in design and can insure that engineering and other factors are thoroughly investigated and planned before work begins. During actual construction, employment of consultants to supervise the work of contractors and others can help to keep down costs and to guard against delays in the construction schedule.

In the projects in which it is involved, the bank maintains a file of consulting engineers all over the world, to use as a guide to pass judgments on the qualifications of the consultant selected by the borrower. It prefers that the borrower submit a list of possible consultants, but frowns on "advertising" for consultants in any manner.

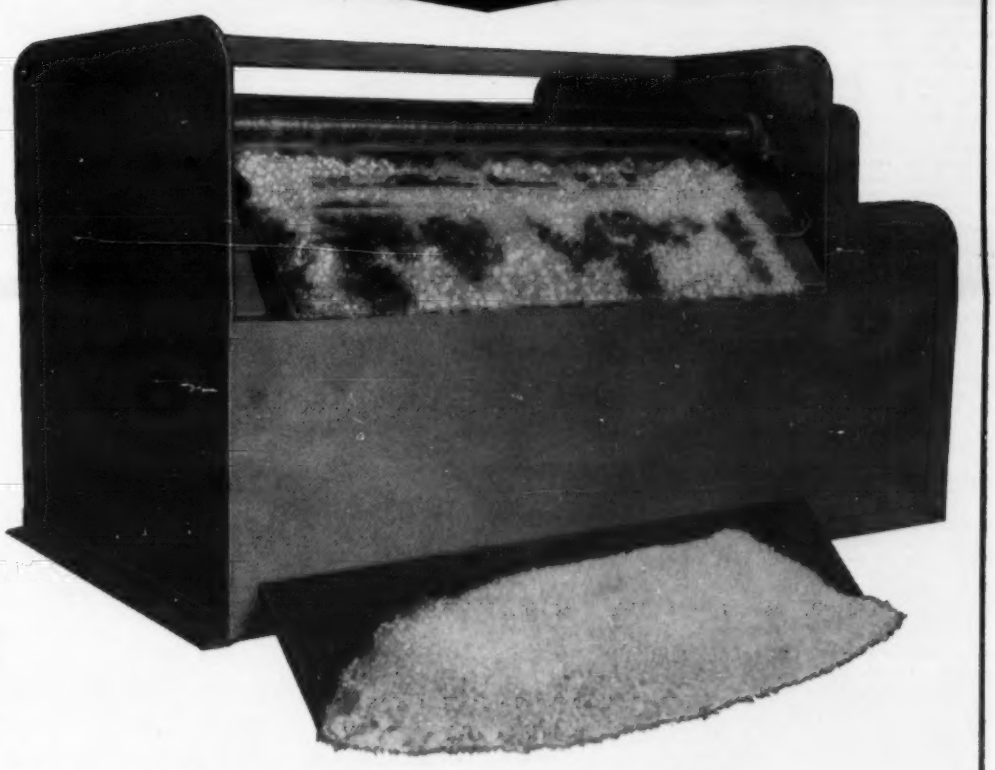
Hathaway also said that in the U. S. it is customary for the owner to require a 100% performance bond, as the premium on a performance bond is based on the amount of the contract and not the size of the bond. Therefore, the premium on a 100% bond is little more than that for a 25% or 50% bond. Contract documents written by U. S. consultants for work in foreign countries generally contain a requirement for a performance bond of at least 50% of the contract price and in some cases 100%.

These requirements are creating a source of difficulty abroad, as it is customary in many European countries to use a commercial bank guarantee which has premiums considerably in excess of those offered on performance bonds to U. S. contractors working abroad.

Hathaway said that on loans made by the bank requiring expenditures for engineering, records indicated that the cost for engineering services on large projects averages about 4%.

Next annual meeting will be held early in May, 1960, at a resort hotel near Portland, Ore.

knowles ICE MAKER



Ice for the cost of Power and Water

For as little as *$1 a ton, the Knowles Ice Maker provides a continuous flow of ice, free of entrained water and dry enough to be handled by any conventional conveyor system or stored in chilled rooms or hoppers without compacting. Delivered at temperatures of 20° F. or less, ice from Knowles machines absorbs more heat, pound for pound, than that produced by any competing equipment.

Unexcelled in quality, the Knowles Ice Machine is engineered and built by a company with many years in the ice machine business. Of exceptionally sturdy construction, these machines are long-lived, simple to operate and what's more are designed to virtually eliminate service problems.

The novel Knowles-patented refrigerant distribution system is trouble free. Ice is removed from the drum by impact, the cutter bar never touching the drum and never needing sharpening. This ends damage to the ice-making surface, too.

Knowles Ice Makers are built with a solid drum, using the direct expansion system, and available for operation with ammonia or Freon-12 systems. They are offered in conservatively-rated capacities of 1½, 3, 4 or 8 tons per day. In actual operation, Knowles users report their machines consistently exceed minimums and often exceed maximum daily rated capacities. Machines of all stainless steel construction are available.

For additional details consult your dealer, or write us direct.
Dealer inquiries are invited.

*Estimate based on power cost of 1½c per kilowatt and nominal water cost.

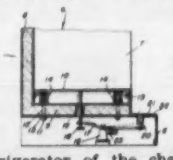
BELT-ICE CORPORATION

3400 SIXTEENTH AVENUE WEST
SEATTLE 99, WASHINGTON

PATENTS

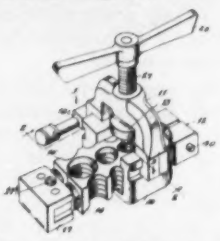
Week of June 30 (Continued)

2,892,425. REFRIGERATOR SAFETY DEVICE. Wesley Himmler, Dallas, Pa.



A refrigerator of the character described comprising: a cabinet including a hinged, horizontally swingable door and further including a bottom, a base mounted beneath said bottom and projecting forwardly beyond the cabinet beneath the door, a depressible platform yieldingly mounted in the lower portion of the cabinet, a lever pivotally mounted, at an intermediate point, for vertical swinging movement in the base. . . .

2,892,480. FLARING TOOL. George E. Franck, Riverside, Ill., assignor to The Imperial Brass Mfg. Co.

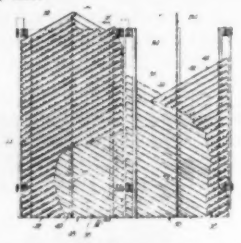


3. In a tool for flaring the end of a tube having a channeled base and flaring means operatively associated with the base, clamping means slidably associated with the channel in the base for fixedly retaining any one of a plurality of different size tube ends in operative relationship with the flaring means. . . .

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

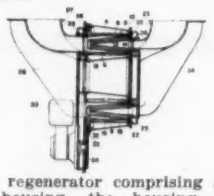
Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Address orders to: Commissioner of Patents, Washington 25, D. C.

2,892,509. DRIFT ELIMINATOR ASSEMBLY FOR COOLING TOWERS. Donald R. Baker, Blue Springs, and Homer E. Fordyce, Gashland, Mo., assignors to The Marley Co., Kansas City, Mo.



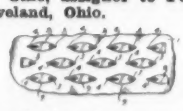
1. In combination with a water cooling tower having an air inlet, an air outlet and means for directing currents of air along a path of travel from the inlet to said outlet in substantially horizontal, intersecting relationship to water gravitating within the tower, a drift eliminator within the tower, disposed to remove droplets of water from the air immediately prior to discharge of the air through said outlet, said drift eliminator comprising a plurality of elongated slats. . . .

2,892,615. HEAT EXCHANGERS OF THE ROTARY REGENERATOR TYPE. Walter S. Misener, Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y.



1. A regenerator comprising an annular housing, the housing having inner and outer concentric walls, a matrix member disposed in the housing, said member comprising two substantially frusto-conical elements extending in opposite directions about the axis of the housing, means dividing said elements into separate portions, means for passing high pressure gases in contact with the matrix portions for a predetermined period and for passing low pressure gases in contact therewith for another period.

2,892,618. HEAT EXCHANGERS AND CORES AND EXTENDED SURFACE ELEMENTS THEREFOR. Sven Holm, Hudson, Ohio, assignor to Ferrotherm Co., Cleveland, Ohio.



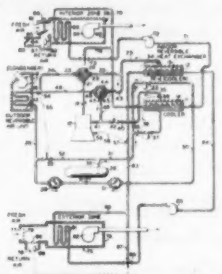
1. In a heat exchanger, a plurality of rows of pin fins, the rows being spaced apart transversely of the direction of flow through the exchanger and the pin fins in each row being spaced apart from each other in the direction of flow, each pin fin having a different aspect ratio than those pin fins of the same row between which it is disposed, and the cross section of each pin fin which has a higher aspect ratio than other pin fins of lesser aspect ratio has both a longer major axis and a shorter minor axis, respectively, than the major axis and minor axis of the cross section of each pin fin of lesser aspect ratio.

DESIGNS

185,598. CONTROL INSTRUMENT Henry Dreyfuss, South Pasadena, Calif., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

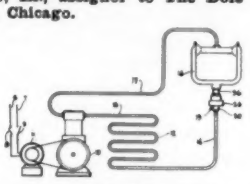
Week of July 7

2,893,218. AIR CONDITIONING SYSTEMS. James R. Harnish, York, Pa., assignor to Borg-Warner Corp., Chicago, Ill.



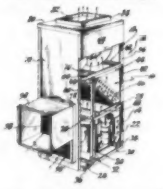
1. An air conditioning system for multi-room buildings having an interior zone and an exterior zone comprising an air treating unit, including a water coil, for said interior zone; an air treating unit, including a water coil, for said exterior zone; means for delivering air treated in said units to the respective zone rooms; a refrigerating system comprising a water cooler, an indoor reversible heat-exchanger and an outdoor reversible air unit connected in a closed refrigerant circuit. . . .

2,893,219. REFRIGERATING SYSTEM AND THERMOSTATICALLY OPERATED CONTROL MEANS THEREFOR. Samuel G. Eskin, Chicago, Ill., assignor to The Dole Valve Co., Chicago.



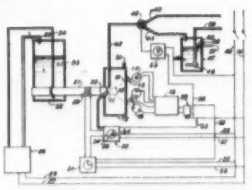
1. In a refrigerating system having a closed refrigerating circuit including compressing means, condensing means and evaporating means and thermally controlled flow regulating and throttling means for feeding refrigerant to said evaporating means and including resilient annular deformable flow regulating means for metering the flow of refrigerant to the evaporating means and providing a substantially uniform pressure drop in the refrigerant over a wide range of variations in head pressure at the compressing means, and thermally operated throttling means in series with said flow regulating means and throttling the supply of refrigerant to said evaporating means upon excessive temperature conditions thereof.

2,893,220. AIR CONDITIONER UNIT. Seymour H. Blum, Chicago, Ill.



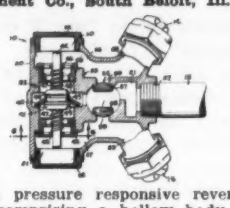
1. An air conditioner cabinet of the type in which there is an assemblage of sections within a single cabinet, including a compressor section, an evaporator section, and a blower section, each section being generally box-like and having framing members supporting the same, the cross sectional configuration of the compressor and evaporator sections being rectangular and congruent and the last two sections being mounted one on top the other. . . .

2,893,237. DEW POINT INDICATOR. Ernest G. de Coriolis, Ralph Hanna, and Arthur W. Peters, Toledo, Ohio, assignors to Surface Combustion Corp., Toledo.



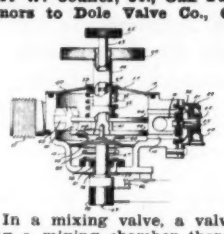
1. Apparatus for determining the dew point of a vapor containing test gas comprising, in combination: a mirror exposed to the test gas; means for cooling the mirror to the dew point of said gas to deposit condensed vapor thereon; means for detecting when said mirror is at the dew point temperature of said gas and measuring the temperature thereof; means for additionally depositing on said mirror more condensed vapor than is condensed in the measuring process; means for heating said mirror after said additional condensed vapor is deposited thereon; and timing means operatively connected to said depositing means and said heating means for controlling the length of times that additional vapor is deposited and said mirror is heated.

2,893,416. PRESSURE RESPONSIVE REVERSING VALVE. Lester O. Hegstad, Roscoe, Ill., assignor to Hanson Equipment Co., South Beloit, Ill.



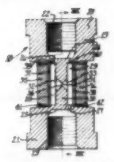
1. A pressure responsive reversible valve comprising a hollow body having two alined outlet passages and an inlet opening intermediate said outlet passages for admitting fluid under pressure to the interior of the body, a shiftable diaphragm adapted to seal either one of said passages, a shiftable support for carrying said diaphragm between said passages, said diaphragm being positionable on said support so as to condition the support and diaphragm for movement by fluid pressure toward one or the other of said passages. . . .

2,893,425. NON-THERMOSTATIC ADJUSTABLE MIXING VALVE. Victor E. Rimsha, Van Nuys, Calif., and Robert W. Couffer, Jr., Oak Park, Ill., assignors to Dole Valve Co., Chicago.



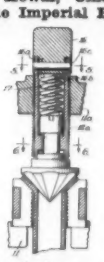
1. In a mixing valve, a valve body having a mixing chamber therein, hot and cold water inlets into said valve body and mixing chamber, an outlet from said mixing chamber, valve means in said inlets movable toward closed positions by the pressure of water thereon flowing through said inlets, a first adjustable means accommodating the positions of said valve means to be changed and stopping said valve means in certain predetermined operative positions. . . .

2,893,432. FLUID FLOW CONTROL. Thomas M. S. Gibson, Milwaukee, Wis., assignor to The Dole Valve Co., Chicago, Ill.



1. In a reversible fluid energy dissipating device adapted to reduce fluid flow rate and pressure, a housing having a plurality of right circular cylindrical chambers therein, said chambers having axially aligned cylindrical walls, parallel spaced outed end walls and a common inner end wall the opposite sides of which are parallel to said outer end walls, an inlet in said housing leading into a first of said cylindrical chambers substantially tangentially of the cylindrical wall thereof. . . .

2,893,463. FLARING TOOL WITH LOST MOTION CONNECTION PROVIDING AUTOMATIC BURNISHING. Leonard J. Kowal, Chicago, Ill., assignor to The Imperial Brass Mfg. Co.



1. A tube flaring and burnishing tool comprising a frame member having a threaded bore through one portion thereof and a support portion adapted to have a tube end supported therein in alignment with bore. . . .

2,893,464. FLARING AND BURNISHING TOOL WITH LOST MOTION CONNECTION. George E. Franck, Riverside, Ill., assignor to The Imperial Brass Mfg. Co.

1. A tube flaring and burnishing tool comprising a frame member having a threaded bore through one portion thereof and a support portion adapted to have a tube end supported therein in alignment with said bore. . . .

(To Be Continued)

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

AIR CONDITIONING & Refrigeration engineer desires to relocate in West or Southwest; would also consider Florida. Twenty years' experience in all phases of refrigeration and air conditioning design, sales and service, including electrical and pneumatic control systems. Experience includes low temperature cascade and compound refrigeration systems as related to environmental test chambers. BOX A6405, Air Conditioning, Heating & Refrigeration News.

POSITIONS AVAILABLE

SALESMAN: REFRIGERATION, air conditioning and heating—San Diego, California. Send resume and salary expected. ALLIED REFRIGERATION SUPPLIERS, INC., 705 14th Street, P. O. Box 136, San Diego 12, California.

DISTRIBUTORS: MANUFACTURER of refrigerated, self-service milk cabinet especially designed for school and institutional use, needs qualified distributors. Prefer dealers doing business with schools. Choice territories available. DISPLAY-O-MATIC, INC., P. O. Box 338, Bradenton, Florida.

MANUFACTURER REPRESENTATIVES wanted with following among industrials to sell quality line of small capacity explosion-proof, air to air heat pumps. MECHANICAL COOLING CO., P. O. Box 12354, Houston 17, Texas.

SALESMEN ENJOY the wonderful Florida climate and make money at the same time. Also, make $10,000 to $12,000 per year proven figures. Have you ever sold automatic ice machines, or soft drink dispensers, or soft ice cream and milk shake machines, or restaurant equipment? Retail. We handle and arrange all installment credit, and make all collections. Are you past 40 years of age? Can you prove the above and give satisfactory character references? This is a permanent connection with a well-established firm with well-known lines and well-financed. Write giving personal data, experience, references and photo. WATERS EQUIPMENT CO., INC., P. O. Box 10013, Tampa 9, Florida.

MANUFACTURER'S REPRESENTATIVE for commercial refrigerator manufacturer. Several desirable territories open. Activities to include contacting distributors, dealers and food chains. Give details as to experience, territories in which you can give complete coverage, and industry references. Replies held in confidence until interview. BOX A6237, Air Conditioning, Heating & Refrigeration News.

MANAGER OF air conditioning engineering to assume management of product design and development of well established eastern manufacturer. Products include packaged equipment, chillers, fan coil units, heat pumps, air handling equipment and some commercial refrigeration. Must have proven technical and administrative ability. Send resume of qualifications to BOX A6399, Air Conditioning, Heating & Refrigeration News.

FIELD SERVICE Engineer—Our company is growing and expanding. We need and have opportunity for a capable, experienced, refrigeration service man, under 40 years to handle field service engineer responsibilities in limited territories in New England and Middle Atlantic States. Must be free to travel. Food store experience preferred. Willing to move at our expense, if necessary. High school (or better) education. Give full details, with five references, and send photograph with first letter. Applications without photographs will not be considered. Salary, expenses, insurance, welfare, and other benefits. BOX A6402, Air Conditioning, Heating & Refrigeration News.

WELL ESTABLISHED New York City air conditioning and refrigeration mechanical contracting firm desires partner to buy one half interest. Immediate expansion planned. Present status excellent, with great potential. Knowledge of sales, service and installations. Write BOX A6403, Air Conditioning, Heating & Refrigeration News.

ASSISTANT CHIEF Engineer. Young fast growing company manufacturing industrial refrigeration requires graduate refrigerating engineer with a minimum of three years' experience. Must know theoretical cycles, heat transfer, piping and compressors. Duties will include design, testing, trouble shooting and preparation of sales literature. Excellent salary with room to grow. Chicago location. Reply in strict confidence with complete resume to BOX A6404, Air Conditioning, Heating & Refrigeration News. Expense paid personal interview will be arranged.

MANUFACTURERS REPRESENTATIVES for manufacturer of refrigeration and air conditioning coils. Complete line of commercial refrigeration coils and air handling equipment. Must be aggressive and have successful contacts with refrigeration distributors, original equipment manufacturers and contractors of refrigeration and air conditioning equipment in commercial and industrial fields. Reply giving full resume of experience and lines currently handled. BOX A6406, Air Conditioning, Heating & Refrigeration News.

EXPANSION AND promotion gives opportunity for topgrade man to sell York-Borg Warner Packaged Air Conditioning & Heating, Reznor and Allied Lines. Want experienced wholesale man, with ability to sell and earn high commissions. Salary plus commission plus expenses, plus car, plus top future. Reply, confidential letter only, Deane Worlein, YORK - DETROIT WHOLESALERS, 14385 Wyoming, Detroit.

EQUIPMENT WANTED

WANTED: MANUFACTURERS surplus, outdated or obsolete refrigeration items—expansion & water & shut-off valves, controls, relays, dehydrators, units, tubing, fittings, etc. All sales on a cash closeout basis, large or small quantity. Write or call: COMMERCIAL CONTROLS CO., 257 East 3rd Street, New York 9, New York, ORegon 3-7210.

EQUIPMENT FOR SALE

AJAX ICE Machine parts—We have purchased the inventory of parts, plus all tooling, for the Ajax Electric Iceman, formerly manufactured by Servel, Inc. We are now furnishing replacement parts, for all models including Ajax Pebble Machine. Catalog & prices available. AJAX EQUIPMENT CO., INC., 73 Pine Street, Montclair, N. J.

FOR SALE: Air conditioning 2 hp. hermetic compressors—Model HB200 230 V. 60 cy. 1/phase F-22. Complete with electrical "Power Pack". $79.00 ea. F.O.B. Chicago, Illinois, WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.

Servicing Automobile Air Conditioners

(Vol. 4 — 1959 Models)

BY C. DALE MERICLE

Like the preceding three volumes in this series (which are available in handy manual form), these articles are intended for the *experienced* refrigeration mechanic, not the novice, and are primarily designed for emergency service.

Detailed step-by-step instructions on adjustment and replacement procedures are purposely omitted, partly to discourage the "do-it-yourself" clan and partly because major repair jobs for the most part will be performed by authorized service agencies of the manufacturers without whose cooperation this series could not have been written

MERCURY (3)

M-E-L Div.
Ford Motor Co.
Dearborn, Mich.

SERVICE HINTS

Evacuating

Both Climate Dial and Comfort Cool units should be evacuated following initial installation or opening the system for repairs.

Use of a separate vacuum pump is recommended by Mercury.

A vacuum of 26 to 29 in. should be pulled down and maintained for 20 to 30 minutes, the manufacturer suggests.

Charging

Refrigerant-12 is used on both 1959 Mercury Systems, which are charged through the low side in the usual manner with the refrigerant in the vapor state.

Complete charge is 3 lbs. in the 1959 Climate Dial built-in system; 2½ lbs. in the 1959 Comfort Cool under-dash model.

Performance Test

A good indication as to whether the 1959 Mercury systems are operating satisfactorily is to check their performance against the recommended pressures and discharge air temperatures at the air outlets listed in the accompanying performance test table.

Test should be made indoors to avoid the sun load. Hood is raised, engine operated at 1,500 r.p.m., controls set for maximum cooling, blower at high speed, jumper wire connected from battery to compressor clutch to insure constant operation, and a large fan placed ahead of the radiator.

The system should be operated for five minutes to stabilize pressures and temperatures, but the system shouldn't be operated for more than 10 minutes at a time.

Performance Test On 1959 Mercury

Ambient (°F.)	Head Pressure (p.s.i.g.)	Suction Pressure (p.s.i.g.)	Air Outlet (°F.)
70	120-140	15-21	35-39
80	138-172	16-22	36-40
90	161-209	18-26	37-42
100	190-250	22-30	39-45
110	260-300	40-50	44-49

Trouble Shooting

Because the basic refrigeration circuits of both the Climate Dial and Comfort Cool units in the 1959 Mercury line follow the conventional arrangement of controlling temperature by a thermostat cycling a magnetic clutch on the compressor, conventional service methods will apply to both these units.

There could be special problems with the built-in Climate Dial system, however, because of the vacuum motor system used to position air dampers and the air conditioning thermostat.

Leaks in the vacuum hoses or poor hose connections could result in malfunctioning of the vacuum motors and master dial control. If the master control or a vacuum motor is faulty, it must be replaced because it normally can't be repaired in the field.

Next: A discussion of the Edsel Auto Air Conditioner.

Bastian-Blessing Issues Repair Parts Catalog

CHICAGO — A new 48-page catalog (SR-900) covering repair parts for its soda fountain and food service equipment has been published by The Bastian-Blessing Co., 4203 W. Peterson Ave., Chicago 46, Ill.

Exhibiting at Dallas Show?

If so, tell the entire industry of the products you'll be showing . . . create special interest in your exhibit . . . by advertising in the Big February 1 Dallas Show Issue!

•

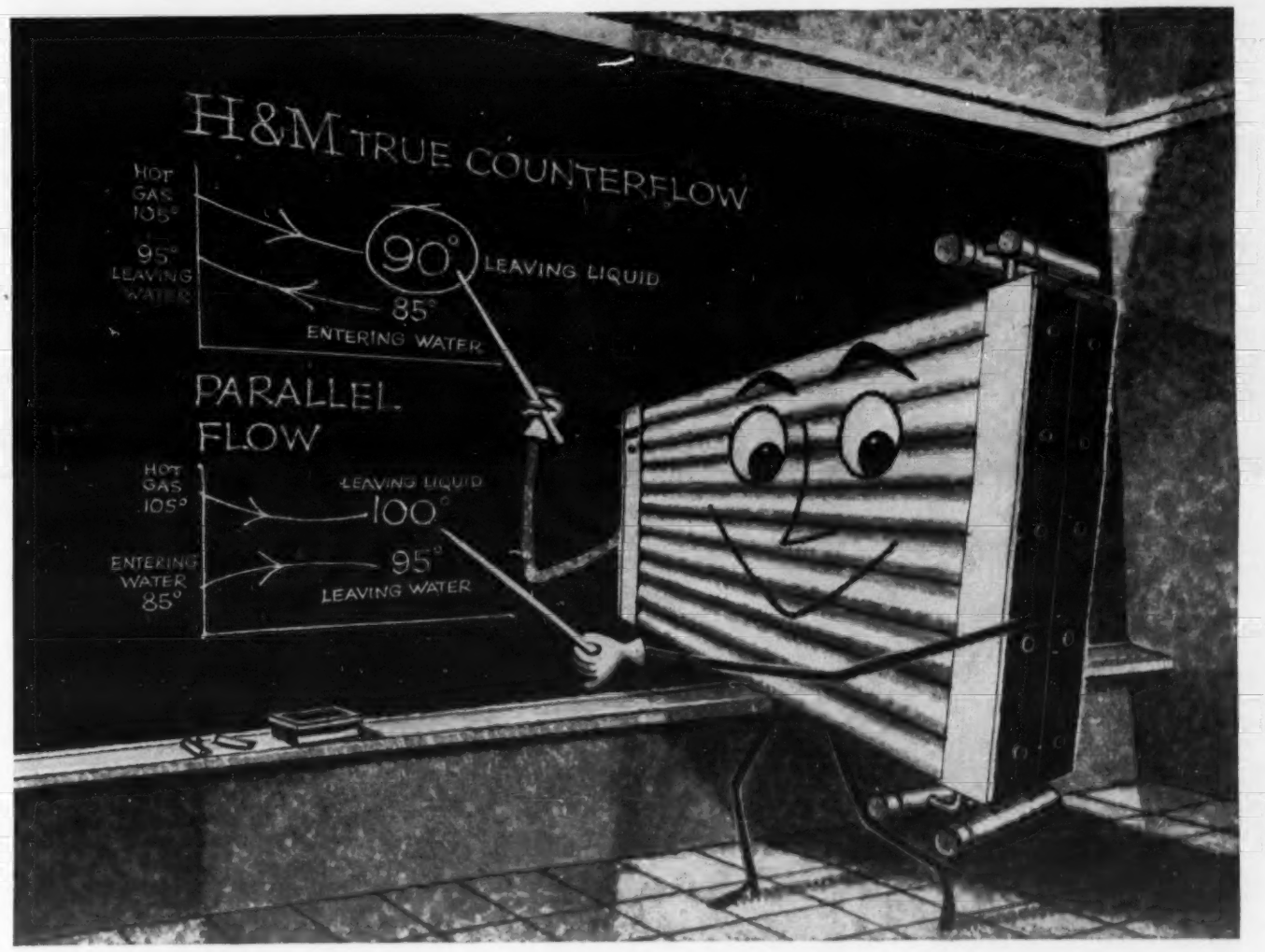
If you're not exhibiting, let your ad in the February 1 Dallas Show Issue represent your company at the Southwest Heating & Air-Conditioning Exposition!

•

In addition to the 23,000 weekly circulation of the NEWS, extra distribution of the February 1 issue will be made at the Show from the NEWS booth, #1312.

PLAN YOUR AD TODAY

AIR CONDITIONING HEATING & REFRIGERATION NEWS
450 WEST FORT ST.
DETROIT 26, MICHIGAN



BEFORE YOU BUY, THINK:

Will you get adequate subcooling from your condenser?

You will if it's an H&M water-cooled condenser with true counterflow heat exchange

In Halstead & Mitchell water-cooled condensers the refrigerant and cooling water are introduced in true counterflow, as shown in the chart. Test results indicate an average of 15 degrees of subcooling in H&M condensers. Liquid refrigerant leaves at a lower temperature and system capacity is increased about ½% for each degree of subcooling without additional power input.

H&M condensers feature double-tube design, seamless copper tubing, brass headers. End plates are easily removed for quick, safe, *mechanical* cleaning. Water tubes are generously sized for low pressure drop and minimum maintenance. Available in ⅓ to 25 ton capacities, condenser types are Standard (½" and ⅝" O.D. water tubes), Heavy Duty (⅝" O.D. water tubes), and Sea Water (⅝" O.D. cupro-nickel water tubes), and are U/L approved. Order them from your refrigeration wholesaler and use them singly or on racks. Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

H&M WATER-COOLED CONDENSER WITH TRUE COUNTERFLOW

HM Halstead & Mitchell

Water-Cooled Condensers • Cooling Towers • Air-Cooled Condensers • Finned Coil Products

Lennox Sales--

(Concluded from Page 1, Col. 4)

saying only that he "hoped that the level of activity achieved this year would be maintained in 1960."

Listing reasons for the large increases in heating and cooling installations, Norris said the most important was the fact that "builders have developed a greater appreciation of doing business with a top quality heating dealer."

An additional factor, Norris said, is that Lennox has developed a "highly successful" builder sales program. He also stated that more and more people are demanding top quality heating and air conditioning as original system equipment.

Some other reasons listed by the Lennox executive included: Housing starts up over 1958; acquisition of new dealers; a revitalized sales force; and expanded advertising, sales promotion, and public relations programs.

Fedders Sales--

(Concluded from Page 1, Col. 2)

or $1.17 a share on somewhat fewer shares.

The rise in shipments of Fedders brand air conditioners more than offset the business eliminated by the expiration of an agreement with a contract customer in June, 1958, it was noted.

"Two factors primarily were responsible for the materially greater rise in earnings as compared with sales," Giordano said.

"Shipments of the Fedders brand of air conditioning units were more profitable than the contract business their added volume replace." And, he said, "earnings for fiscal 1959 reflect the cumulative results of Fedders continuing cost control program.

"The marked gains experienced by Fedders more recently introduced types of air conditioners — central systems, through-the-wall units, and the various models equipped with heat pumps," Giordano said, "gave further indications of the company's success in building an increasingly broad foundation for future growth."

He stated that Fedders brand volume "once more reached a new high."

Southwest Show--

(Concluded from Page 1, Col. 4)

lively interest in the display, which will be held in the Memorial Auditorium, occupying the huge arena as well as the extensive exhibition area on the ground floor."

Inquiries and applications received from all parts of the country indicate that the show "will exceed its predecessor in magnitude as well as scope, and that all available space will be allocated well in advance of the opening."

Management of the exposition is being conducted by the International Exposition Co., 480 Lexington Ave., New York 17, N. Y. E. K. Stevens, president, is manager of the exposition.

Westinghouse Heat Pump Sales Shift--

(Concluded from Page 1, Col. 5)

those distributors and dealers experienced in installing and servicing our products. The number of these trained people is being increased with the introduction of a new heat pump training school at the Staunton, Va. plant and our various other factory and field training schools."

To insure long-term satisfaction to the user, the new distribution policy for Westinghouse central system heat pumps includes several other conditions. One of these requires that the utility in the area have an active local promotional program on electric heating.

In addition, the heat pump capacity for cooling, and economical mild weather heating, will be clearly defined by distributors, so sufficient supplementary heating will be installed to handle the heating load at design conditions.

D. R. Meckstroth, manager of marketing, commented, "This policy is being announced after thorough discussion with electric utilities. It is a sound move since it recognizes that marketing of heat pumps must still be selective, but at the same time taken advantage of all its advanced capabilities. We are proud of this policy and recommend it for the consideration of the entire industry."

In detail, one point of the new policy states, "electric rates in the area must be consistent with customer satisfaction, when compared with operating costs of other fuels being used for automatic heating."

This does not mean that operating costs of the heat pump need necessarily be identical to that of a competitive system. They must, however, be within a close range, and certainly no higher than is warranted by the superior features of a heat pump cooling and heating system, it was explained.

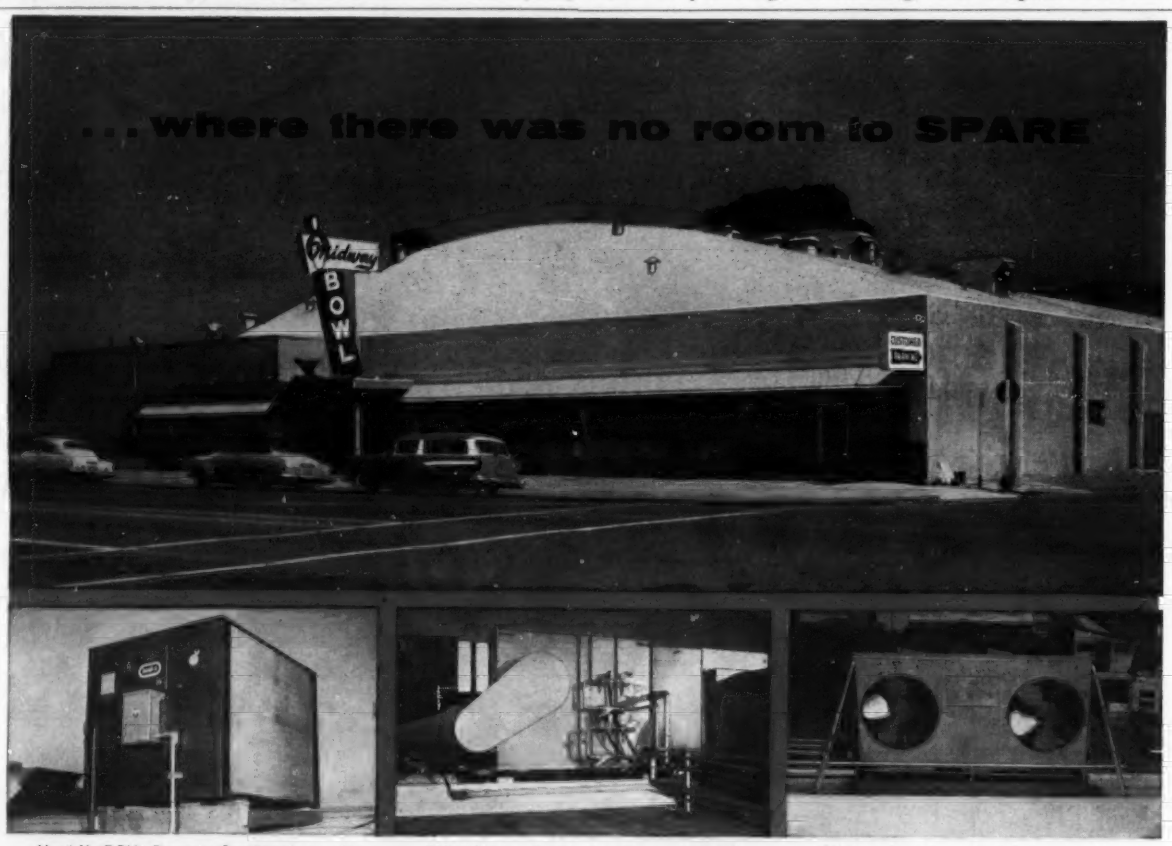
Serfass added that there were many factors supporting the recent expansion of the pump distribution. Among these, has been an intensive development program in heat pumps. Recent performance and reliability figures for the company's units has been sufficiently proven to recommend the use of these heat pumps in northern areas. Conversely, the units can be applied in areas where the extremes of temperature create great loads on the air cooling feature of the heat pumps.

Westinghouse has a long history in heat pumps. Its first residential installation was made 27 years ago in Reading, Pa., in March of 1932. This was a field-assembled job. Many others like it led finally to the introduction of a packaged heat pump for general sale in 1953. Since then, systems have been installed in all parts of the country.

Westinghouse's current line of heat pumps are air-to-air central system units. The company markets 3, 5, and 7½-ton units of the split system type, and self-contained units of 2, 3, and 5-ton capacity. Westinghouse also produces a full line of electric heating.

Albert P. Handel Dies

CLEVELAND — Albert P. Handel, founder of the Handel-Davis Co., manufacturers' representative, and chairman of the board of Electric Heating & Cooling Corp. of Canton, died unexpectedly recently in Lakeside hospital. He was 65.



Heat-X 'RCU' Remote Condensing unit (used with 'CC' unit) for coffee shop and offices.

'HAH' Horizontal Air Handling unit (used with 'LRCU') mounted on roof, air conditions bowling area.

'LRCU' Large Remote Condensing Unit (used with 'HAH') serves bowling area.

DUNHAM-BUSH made a comfort STRIKE

'CC' Comfort Conditioner in office area (used with 'RCU').

ROOM AT THE TOP AND COMPACT DUNHAM-BUSH EQUIPMENT ENABLED MIDWAY BOWL TO INCLUDE CUSTOMER COMFORT IN REMODELING PLANS...

In the remodeling plans for Midway Bowl, San Leandro, California, addition of air conditioning for customer comfort was extremely important.

But space limitation in this 160' x 125' structure was a serious problem.

The solution was an applied combination of careful engineering and compact Dunham-Bush products. Result . . . the virtually all-roof-top installation of a highly efficient system.

Widely known for its broad heating and cooling service to large industrial and commercial buildings, Dunham-Bush also satisfactorily serves the smaller ones through 'one source—one responsibility' operation. The challenging circumstances under which Dunham-Bush products were specified and installed here at Midway may be right up your alley on your next job. Call the Dunham-Bush sales engineer near you for more information.

Dunham-Bush, Inc.

WEST HARTFORD 10 • CONNECTICUT • U. S. A.

DUNHAM-BUSH

AIR CONDITIONING • REFRIGERATION • HEATING • HEAT TRANSFER